

# THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. LXX.

NEW YORK, SATURDAY, MAY 15, 1897.

No. 20.

## ORIGINAL ARTICLES.

### TENDENCIES IN MEDICINE.<sup>1</sup>

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THE greatest advance of our time—it seems trite to mention it to such an assembly—is the ardent study of the causation of disease. Students have speculated in all ages on the causes of disease; but these have been, for the most part, half-hearted speculations, made so by the feeling of impossibility of reaching a conclusion, or dogmatic assertions that, believed in for a time, soon became of interest only to the curious searchers for fragments on the shelving beach of science. Now, the recognition of minute organisms, their study, their artificial culture and modes of growth, their secretions, their chemical characters, their likes, their antagonisms, have let us into the secrets of another world and are showing us the way in which infective maladies originate and the laws they obey. We are looking for infection in every disease; we are often keenly pursuing it where it probably does not exist; at all events, not in the shape of bacteria, which in our day we accept as a term almost synonymous with infection.

Other than mere bacteriologic work forms a most valuable part of the contribution of the laboratory to the investigation of disease, and in the last decade has placed this investigation on a much higher plane. The microscopic and chemic examinations of the secretions and excretions and of the blood have become our daily duty. The chemic examinations, which, dealing, as they may be made to do, with the constantly varying problems of life in disease, have been temporarily overshadowed by the ardor of bacteriologic research, will, with widening fields, resume their former prominence. The time is indeed at hand in which, without the ready access to a laboratory manned by experts in all these lines, or the association with a trained laboratory assistant, no physician can do his patients, himself, or his science justice.

Closely connected with the laboratory investigation of disease, especially with its chemic investigation, is the study of the effects of the products generated by decomposition of albuminous matter,

producing, when developed in the dead body, the substances known as ptomaines, when in the living body, as leucomaines. The recognition of these agents, so frequently poisonous, is explaining many obscure processes, is leading to new and close scrutiny of others and to search after means of neutralizing their toxic influences.

Another of the best results of the achievements of our time is seen in the effacement of the strict division between medicine and surgery, or rather in the recognition that there are no lines separating them, but lines becoming continuous, on which joint action proceeds. We see this in the whole clinical history of appendicitis and its progressive unfolding; the more the medical part is studied and rendered precise, the more exact become the indications for operation and the appreciation of the chances. The same may be said of abscess and of tubercle of the kidney; of the investigations of the character of effusions into pleural, or pericardial, or peritoneal cavity; and of many other well-known conditions that surgeons and physicians are now studying together.

The tendency of our time is to endeavor to overcome disease, and not merely to observe and palliate its ravages. We are going back to the doctrines of our forefathers; abandoned for a time, because, with an expanding knowledge from the study of pathology, the means they possessed were found to be, for the most part, totally inadequate. Thus, there was a period of nihilism and expectancy in therapeutics. But so-called rational expectancy is but a confession of impotency. Now, the tendency is once more aggressive. We are trying directly to choke or to subvert morbid action, and doing this partly through the old, transmitted remedies of former generations, but employed with a better understanding of their real qualities, partly by new agents furnished by chemistry and by constant research in other fields.

One of the most interesting attempts at radical therapeutics is the endeavor to counteract the bacteria of disease by substances that form in the body and which neutralize their toxic products. This antitoxin treatment is brilliant and hopeful, and is being tried in many affections, preeminently in diphtheria, in tetanus, and in erysipelas. It cannot be said that as yet it has led to any great results, though the evidence is decidedly in its favor in diphtheria. It

<sup>1</sup>Abstract of the President's address at the Twelfth Annual Meeting of the Association of American Physicians, Washington, D. C., May 5, 1897.

seems scarcely worth while to push it in erysipelas—at least in the erysipelas which the physician sees—for the mortality in this is, under any treatment, very slight. How valuable the antitoxins will prove as preventives remains also to be solved. More productive thus far has been the use of attenuated virus, as, for instance, in Pasteur's treatment of hydrophobia, etc. The effects on tuberculosis must be taken thus far as the expression of hope rather than that of fact. The next decade will prove whether the X-rays, which are making such wonderful additions to diagnosis, will have also their therapeutic triumphs.

There are, with all these tendencies of our day that work for good, some which, whether growing out of them or whether the exaggeration of old hindrances, have to be, in the interest of true science, strenuously guarded against. One that is very evident is the tendency to immediate generalization. The discovery of every new bacterium is supposed to instantly revolutionize the science of medicine, and is announced with all the air of the unexpectedness of genius.

Fixity of opinion in medicine is a virtue, if the mind remain open to proof and be in sympathy with advance; and it is this freshness of mind, joined to good judgment, which will best estimate the true value of the many facts constantly discovered in an advancing science like ours. Clinical medicine, indeed, must continue to be the final court of appeal for the purposes of the practitioner of medicine. Before that court will come and be listened to with sympathetic interest, as eloquent advocates, those who are presenting the claims of special studies. But these must be well supported and judged in their bearing on the whole before new laws are laid down. And we see that the more we investigate and the more we know the more will old questions assume different aspects, the more they will have to be retested; there is no finality—there can be none—in medicine. When the last word is spoken we shall have a perfect science; until then there must remain for us a certain amount of empiricism, especially in treatment.

It would be, indeed, well if in all our professional literature there were something more of the learning of the scholar and the clearness of the literary artist; men who followed the master, Harvey, in other points besides profound and productive research. A few more Watsons and Pagets, Trousseaus and Hyrtls would make knowledge easier to obtain, more constantly with us, forming much more a part of our daily life and application. It is true that if, in our science, we must choose between profound inquiry and its clear enunciation, we shall

choose the former. It is a pity, and it is unnecessary, that there should be any occasion for a choice. The French, with their lucidity in scientific matters, set all other nations an example. The countrymen of Goethe, foremost in investigation, following his avowed contemptuous indifference to style, are the greatest sinners against clearness and vivid expression.

One more tendency of the day let me notice, which is not for good, and undoubtedly retards progress. It is the excessive publication of half-knowledge, of doubtful fact, and of loose inquiry. The propensity for authorship is an old disease, but it has assumed a development commensurate with the prodigious development of everything else in the age in which we live. It is harmless in journalism, less so in literature, but positively dangerous in science; for it fills it with immature or false observation, and takes the time of others to remove the obstructions placed in the stream of knowledge. With some, want of sufficient training leads to it and absence of inquiry into what has been already ascertained; in others, it proceeds from a girl-like genius that, in place of letter-writing, pours itself out in medical periodicals, fascinated by penning sentences full of pseudo-scientific commonplace. It is far from being a disease only of the untried or ignorant; famed workers, too, may succumb to it, listening, perhaps, to the entreaties of friendly and sleepless editors. Who knows that it is not, after all, a physiologic function, giving full play to brain-centers in very rare use—centers situated in what Oliver Wendell Holmes has called the idiotic area of the brain.

But whatever the retarding influences, they are not to any extent checking the onward course of medicine. The numerous inquiries, the keen experimentation and close research, the general thoughtfulness, are developing a resistless scientific method; resistless because it is true. Medicine is no longer an art founded only upon empirical observation, no longer a purely deductive science; it is also becoming an inductive one. The great body of the community is touched with friendly interest in watching its growth. With the advance of the scientific method special systems are crumbling; future ones are impossible. There can be no more pathies; the general intelligence will prevent it; for educated men are recognizing the broad base on which medicine is resting, and that truth is sought in it by the same means that are used in physics and in the highest development of other sciences. In our midst with all this, conviction is becoming clearer, purpose waxing more resolute. We see, without pang, castles which have crowned rocks

being turned into dismantled memories, because we know that something stronger, that will defy all time, will stand ultimately on the old commanding sites. With everyone of us there is a mission to assist the general advance.

**PERITYPHLITIS AND APPENDICITIS IN  
THEIR RELATIONS TO OBSTETRICS  
AND GYNECOLOGY.<sup>1</sup>**

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THE recognition of the true pathology of inflammation of the vermiform appendix is an event of comparatively recent date. Formerly, indeed within twenty years, inflammation of the right iliac or cecal region was known as "perityphlitis," and supposed to be situated in the neighborhood of the typhlon or cecum, the cause of the disease being the transmission of an infection or irritation from the bowel. The connection of the appendix with the inflammation was not suspected. Hence, in former days, the disease was called perityphlitis, and only within the last ten years or so has the term "appendicitis" been adopted. Although a hybrid word, it expresses the condition of inflammation of the vermiform appendix perfectly, and is scarcely likely to be supplanted by the word "scolecitis" (Greek *σκόληξ*), recently suggested by Dr. Gerster. The word "appendicitis" has, however, one disadvantage when applied to the disease in the female sex, namely, that it conflicts with the name which might be given to inflammation of the uterine appendages, for which the long and cumbersome word, "salpingo-oophoritis" is now used. However, it is not my object to discuss either appendicitis or perityphlitis in a general manner, but to confine myself to these diseases as they may interest the obstetrician and gynecologist.

That such conditions as perityphlitis and perityphlitic abscess exist, entirely independent of the appendix, I know to be the case, and I shall refer to an instance of it in the course of this paper.

Until quite recently, nearly all, if not all, the cases of appendicitis reported in literature occurred in the male sex, as though the disease was limited to that sex. Of course this was not the case, for the female has a vermiform appendix quite as well as the male, and there is no physiologic, anatomic,

or pathologic reason why the appendix should not become inflamed quite as readily in the young or adult female as in the male at any age. But certainly the disease was looked upon as occurring chiefly in the male.

The reason for this apparent immunity in women must undoubtedly be sought in the vast preponderance of inflammatory affections of the uterine appendages, pelvic peritoneum, and pelvic cellular tissue, which so overshadowed the intestinal appendix as to cause diseases of this organ to be overlooked and undervalued. I have no doubt that many of us in past years have failed to recognize more than one appendical exudate and abscess, mistaking it for a pelvic cellulitis or peritonitis on the right side; and the error was never discovered, because in those days the abdomen was not so readily opened as now, and even the autopsy failed to explain the true cause of the general peritonitis from which the patient died. A proper consideration of the exact site of the inflammatory product, whether it descended into the pelvic cavity or was situated in or above the iliac fossa, must easily have settled the question. But the idea of appendicitis did not occur to us then as it does now, any more than formerly a tubal pregnancy, particularly after rupture, was recognized as readily as now, simply because we had not then become accustomed to look for that accident, as is now the practice.

I recollect a case seen by me in 1875 in which a hard, painful mass was found in the right ilio-ovarian region, and which I supposed to be an exudate from pelvic peritonitis or cellulitis. Not until two weeks later, when I was asked to see the patient again and found a fluctuating swelling in the median line halfway between the umbilicus and pubes, aspiration of which showed a thin feculent-smelling discharge, did the true nature of the case—a fecal perityphlitic or appendical abscess—reveal itself.

Some twelve years ago I was called to see a girl of fourteen for an obscure pain in the right iliac region which was supposed by the family physician to depend on disease of the right appendages. I detected a resistance at that point and diagnosed a "perityphlitic abscess," the temperature and pulse indicating the probable presence of pus. On the night before the day fixed for the operation the abscess broke into the bowel, the pus was discharged per rectum, and the tumor and all the symptoms disappeared. I will mention incidentally that I saw a similar occurrence in a boy some twenty years ago, when I was still attending general practice. I failed to make the diagnosis until after the rupture, as the tumor developed in the median line and resembled the distended urinary bladder. But the peculiar odor of

<sup>1</sup> Read at the Twenty-second Annual Meeting of the American Gynecological Society, Washington, D. C., May 4-6, 1897.

the fluid discharged per rectum, the complete subsidence of the swelling and rapid recovery of the boy, made such an impression upon me that I at once recognized the similarity of the two cases when the discharge voided by the girl was shown me. In both of these cases an operation was happily forestalled by the unexpected bursting of the abscess into some portion of the intestinal canal.

I had almost forgotten these two cases when about five years ago a girl fourteen years of age was brought to my office for a foul-smelling discharge from the vagina which I found to proceed from an opening in the right vaginal wall. The hymeneal ring had been so dilated by the presence of the abscess that a vaginal examination was easy. On probing the abscess it was found to extend up to the crest of the right ilium, where the history stated the pain originally began. Free incision, irrigation, and drainage, resulted in a closure of the abscess. A short time later two instances of appendical abscess, one complicated by abortion, the other by a small ovarian tumor, which completely masked the presence of the abscess (the pain and fever being attributed to a twisted ovarian pedicle), occurred in my service at Mt. Sinai Hospital. Although I was much interested in these cases I did not report them, as I presumed they were not uncommon in general practice, and as I did not then appreciate their close relation to gynecology and obstetrics.

When, however, in September, 1894, a case of appendical abscess during the eighth month of pregnancy, which caused the death of the child and premature delivery through the high temperature (104° F.) produced by the disease, was seen by me in consultation and reported in the *Medical Record* of December 1, 1894, the profession became aroused to the importance of this subject, and reports of similar cases began to appear in the medical journals. One of the earliest articles is by Dr. F. W. Thomason, of Huntsville, Texas (*Medical Record*, September 21, 1895), in which he refers to my case of September, 1894, as "now famous in medical literature." The most complete paper on the subject is by Dr. Robert Abrahams of New York, which he read before the New York County Medical Association on November 16, 1896, and published in the *American Journal of Obstetrics* for February, 1897. He limits his remarks to appendicitis complicating pregnancy, and reports seventeen cases observed by him, Wiggin, Gerster, McArthur, S. C. Harrison, Thomason, Crutcher, Hirst, Willy Meyer, and myself.

A very excellent article by H. N. Vineberg on "Acute Catarrhal Salpingitis; its Resemblance to Appendicitis; Differential Diagnosis and Treatment," appeared in the *Medical Record* for November 21,

1896. Of late, reports of cases mentioned in discussions at the various medical societies, in which appendicitis was complicated with inflammatory disease of the right appendages, or in which an inflamed and suppurating tube or ovary simulated an appendical abscess, are increasing.

I myself have had some additional experience, a report of which, with the exception of my most recent cases, will be found in the *Medical Record* for March 23 and October 26, 1895. In these communications I refer chiefly to the occurrence of appendicitis during pregnancy and labor, and call attention to five points in the pathology, diagnosis, and treatment of the disease at these times, namely:

1. The possibility of the occurrence of appendical inflammation, either as a new disease, or as a recurrence of a previous attack at any time during pregnancy, or even during labor and the puerperal state. Indeed, there is no reason whatever why a woman at these times should be more safe from the disease than at any other time.
2. The induction of abortion or premature labor by the acute appendicitis, either in consequence of the local irritation or through the fatal effect on the ovum of the general hyperpyrexia.
3. The difficulty of diagnosis of the true nature of the case, especially when the pain in the right iliac region is masked by the natural labor pains, or the attack occurs after delivery, and the high temperature may be mistaken for that of puerperal septic infection.
4. The necessity for prompt surgical interference, whether the attack occur during labor or the puerperal state.
5. The danger of a greater mortality owing to the possible postponement of the operation in consequence of the difficult diagnosis, or to the risk of genital infection.

In my first reported case I delayed operation until four days after delivery, as the urgent symptoms abated and there appeared to be no immediate danger. Fortunately, the abscess was separated from the general peritoneal cavity by firm adhesions. (The lady has since had a normal delivery at term.) In future I would advise an early operation rather than take the chances of an intraperitoneal rupture of the abscess. I think the danger of a possible septic puerperal infection from the opened appendical abscess far less serious (since infection can be guarded against by careful antisepsis) than that incurred by the always imminent rupture of the abscess and the resulting general peritonitis. In fact, I would treat the case like any other appendicitis, without reference to the existence of pregnancy, labor, or the puerperal state.

I am aware that a number of cases of appendicitis recover without suppuration and without operation. Dr. Thomason's case was such a one. And I must therefore leave the indication for operative interference to the judgment of the medical attendant in the case. But when the pain in the right iliac region is severe, the pulse is rapid and small, and the abdomen tympanitic and tense, no matter whether the temperature is high or not, I believe the safest plan is a speedy incision and evacuation of the pus, if there is any, or, at least, the removal of the appendix. If, in addition to the above symptoms, there be bilious vomiting, and particularly if there be resistance, dulness, or a well-defined swelling in the right iliac fossa, the operation should be at once performed.

If labor is in progress, there should be even less delay than usual in operating when an abscess is suspected, since the uterine contractions may mechanically produce traction on the appendical adhesions and a consequent rupture of the abscess. This seems to have taken place in the case reported by me in the *Medical Record* for October 26, 1895, where there had been a number of previous attacks of pain in the right side several years before, and the acute symptoms of the attack in which I saw her came on a few hours after delivery.

The difficulty of diagnosis of appendical abscess, when masked by septic puerperal symptoms, is illustrated by a case which I saw in consultation about a year ago.

The woman had been delivered four days before of triplets, in the fifth month of gestation. Two weeks previously she had a purulent diarrhea. When I saw her the pulse was 120, the temperature 101.3° F.; there was severe pain in the right hypochondrium, and also tenderness on pressure. The pain and tenderness did not extend down to the crest of the ilium; hence, I excluded appendicitis, but suspected hepatitis or perinephritis. The uterus was prolapsed, the cervix lacerated, and there was a free, offensive discharge. The woman was evidently septic, and I attributed the symptoms to a septic endometritis. At the request of the friends and the physician, the patient was transferred to Mt. Sinai Hospital, where I at once curetted the uterus and packed it with iodoform gauze. Dry cups, followed by hot poultices, were applied to the right hypochondrium. As the condition did not improve, two days later I aspirated in the hepatic and lumbar regions, without securing anything; but on trying again, between the ninth and tenth ribs, very offensive pus was withdrawn. The patient was at once removed to the operating-room, and the ninth rib resected, when an immense abscess was opened, which was evacuated and drained. The patient died two days later, and the autopsy showed that the pus came from the periceal region, having burrowed its

way upward until it became subphrenic. The appendix was inflamed and adherent, but no perforation was detected.

I was reminded by this case of one seen a year before, where a woman whose appendages I had removed for pyosalpinx several years previously, was admitted to my service for severe pain in the right hypochondrium. Seeing that the case was not gynecologic I had her transferred to the general surgical service, where the operation revealed a subphrenic abscess, which had originated in an appendicitis.

The mortality in the cases of appendical abscess, occurring during pregnancy, which have thus far been reported, has been rather high. Abrahams (*loc. cit.*) reports seven deaths out of seventeen cases, or seven deaths out of ten suppurative cases; of the latter all but one were operated upon. This death-rate is entirely too high, and must undoubtedly be attributed to the lateness of the operation, due to the failure to make an early diagnosis, an error for which probably the attending physician was to blame. However, considering the meagerness of our information on this complication of pregnancy up to the last two years, the physician can scarcely be censured for his oversight. Future records will undoubtedly show better results, probably quite as good as those obtained under ordinary conditions in either sex.

So far as the relations of perityphlitis and appendicitis to gynecology are concerned, the cases where the latter affections occur simultaneously with acute inflammation, or abscess of the right uterine appendages, or where one of these diseases simulates the other, are naturally far more frequent than the complication with pregnancy. With the pelvic organs in a healthy condition there is no more difficulty in diagnosing an appendicitis in the female than in the male, with the exception of those cases where the vermiform appendix is unusually long and hangs down into the pelvis. A few cases are recorded where the appendix was found on the left side, being unusually long and having been carried there by intestinal peristalsis. Last winter I removed a perfectly healthy appendix, seven inches in length, which had unexpectedly prolapsed into the vagina through an incision in the posterior vaginal vault made to evacuate the blood from a pelvic hematocele. The appendix evidently must have prolapsed into the pelvic cavity before the hematocele was formed, since the roof of the cavity consisted of fresh adhesions. (The cause of the hematocele, by the way, was a ruptured tubal pregnancy, the sac of which I removed per vaginam; the patient recovered.) With the appendix thus displaced, it is evident that the diagnosis between it, when inflamed, and an inflamed tube might be difficult.

Ordinarily in appendicitis the pain, tenderness and swelling are limited to the spot just above and within the crest of the right ilium, and nothing abnormal can be felt through the vagina. It is only exceptionally that an appendical exudate reaches so low down as to be perceptible through the right vaginal roof; and then it might be difficult or impossible to distinguish it from a perisalpingitis or an adherent pyosalpinx, or even a true pelvic cellulitis, such as is occasionally met with after abortion or delivery at term.

An illustrative case was seen by me in consultation last December. The patient had been ill for six weeks with pain in the right ilio-ovarian region, moderate elevation of pulse and temperature, and coated tongue. The physician, an unusually accurate observer, had examined her per vaginam and made the diagnosis of salpingitis on the strength of an exudate which he felt to the right and in front of the uterus, and treatment had been in accordance. As her condition did not improve, I was asked to see her. Being always suspicious of appendicitis when the symptoms are most prominent on the right side, I made a particularly careful external examination of the right iliac and ovarian regions, and thought I could distinctly make out not only dulness, but also a resistance to pressure in the right iliac region. To be sure, these sensations extended down toward the pelvic region in the median line. Vaginal examination showed the hard, immovable mass in the right anterior fornix previously noticed by the attending physician. Basing on the facts that the dulness and tenderness extended from the vaginal roof up to the right iliac fossa, that the mass felt per vaginam was anterior to the uterus, and not deep in the pelvis (as would have been the case in true pelvic cellulitis or perisalpingo-oophoritis), and that the pulse and temperature (110 and 101.2° F. respectively, continuing for several weeks) showed the probable existence of suppuration, I made the diagnosis of appendical abscess, the pelvic mass being part of the exudate which had not yet broken down. The family physician could not make up his mind to agree to this diagnosis until, the patient having been removed to a private room in Mt. Sinai Hospital, he was compelled to be convinced when an incision in the right semilunar line opened the appendical abscess. The pelvic exudate gradually melted away, and the patient was discharged cured in a little over two weeks. It should be added that the patient had had several attacks similar to this one during the last three years.

In both diseases, appendicitis and perisalpingo-oophoritis, with or without suppuration, the conditions of pain, temperature, pulse, tympanites, fecal evacuations, general depression, reflex vomiting, etc., are very similar, and there is scarcely one special sign which would afford us a decided clue in favor of one disease or the other—except the location of the original pain, which, in appendicitis, is never in

the pelvic cavity or in close proximity to the uterus. It is not always in the right iliac fossa, or at McBurney's point, unfortunately, for often the chief pain is felt in the epigastric region, or, at times, even in the left iliac fossa, or the pain is spread over the whole abdomen, and is not, therefore, the valuable diagnostic sign which we wish it were. But bimanual (vagino-abdominal) palpation does not cause pain in appendicitis, unless in the comparatively rare instances where appendicitis and salpingo-oophoritis coexist.

So far as the location of the appendical abscess is concerned, when the original exudate has broken down, it is usually found limited to the normal site of the appendix; but, at times, the pus may burrow upward or downward, making its appearance in the subphrenic region, as in the two cases already related, or point in the median subumbilical line, or burst through the right vaginal, or the anterior rectal wall (one case of each seen by me). In such doubtful cases the true origin of the pus may be suspected only by its characteristic fetid odor and thin, saniopurulent character, which leads the physician to trace the abscess with the probe to the right superior iliac region, and to confirm the diagnosis by a careful recapitulation of the history of the case, which will usually show that the first symptoms of pain and discomfort were experienced in the right iliac fossa.

I saw one such case, about a year ago, late one night, with Dr. Alfred R. Crain, who had been treating the patient for what he naturally supposed to be pelvic peritonitis. She was a virgin, but it was not the hymen which opposed the entrance of my finger into the vagina, but the upper bulging of the posterior vaginal wall. On inserting the finger into the rectum, I came against a tense, fluctuating swelling, which burst almost before I could define its outlines, and a torrent of foul, sanious pus was discharged. Its odor at once revealed to me the nature of the case. I washed out the cavity thoroughly, inserted a large drainage tube per rectum, and, under drainage and irrigation, the temperature fell, and a rapid recovery ensued.

This last winter, a case with the history and symptoms of pelvic abscess was admitted to my service at Mt. Sinai Hospital, and seen by me just as I was leaving the ward.

A superficial abdominal examination showed a well-defined, tense, fluctuating mass on the left side, and without making a vaginal examination (I admit, an inexcusable omission) I put the case down for operation on the next day, my regular operating day, intending to open the abscess by an incision in the left iliac region. When the patient was placed on the table next day, to my surprise, I found the elastic swelling in the median line, and assumed that it was

an ovarian cyst and that I had made an error in diagnosis. I, therefore, made a median incision, only to find that the uterus and appendages were normal, and that the swelling was retroperitoneal. I then closed the abdominal incision and made a vaginal examination, which revealed a tense protrusion of the posterior vaginal pouch; on opening this, a large quantity of fetid pus escaped, and a probe passed readily up to the crest of the right ilium. The extension of the swelling to the left side on the previous day was doubtless due to the temporary dissecting up of the peritoneum by the pus.

While the appendical abscess may, and probably more often does, simulate a pyosalpinx, pus-ovary, or pelvic abscess, the reverse may at times occur. That is, a pyosalpinx, or pus-ovary, may become adherent to the peritoneal lining of the right iliac region, and both by rational and subjective signs be mistaken for an appendical abscess. I operated on such a case last autumn, and was immensely surprised on opening the peritoneal cavity in the right semilunar line to find an adherent abscess of the ovary. After removing the pus-sac with the tube, I explored the pelvic cavity through the incision and found an intraligamentous abscess of the left ovary, which I removed through a second (median) incision.

Cases of small ovarian cyst with twisted pedicle on the right side have been reported by Drs. Wm. T. Bull, McBurney, and others, I believe, which were mistaken for appendical abscess.

Recurrent appendicitis may readily be mistaken for inflammation of the right appendages, unless a careful examination is made. Several years ago I saw a young lady in consultation who had had seven attacks of severe pain in the right iliac region during the two preceding years, each confining her to bed for a week. Her physician suspected an oophoritis or salpingitis, and asked me to see her with him. Rigidity of the abdominal muscles necessitated examination under chloroform, when I easily decided that the appendages were normal, and that the appendix was twisted, adherent, and swollen to the size of a lead-pencil.

I confess that I have never been able to palpate the healthy appendix, as Edebohls claims can be done, but I do not doubt that with very thin and relaxed abdominal walls it might be done, just as we can often feel the normal Fallopian tube under like favorable conditions.

Even an experienced examiner may make a mistake in diagnosis in these cases of supposed recurrent appendicitis. Recently a young married woman was sent to me for a constant severe pain in the right iliac region. I found a little below the normal site of the appendix a small, hard, very tender, immov-

able nodule, which seemed to be intraperitoneal, and which I pronounced to be the swollen and adherent appendix. On cutting down on it through the semilunar line I found that the nodule was a fibrous tumor of the size of a hickory nut and extra-peritoneal, but so firmly attached to the peritoneum that a strip of the latter had to be removed with it. The peritoneal cavity having thus been opened, I examined the uterine appendages and, finding the right ovary cystic, resected it.

I have spoken of perityphlitis in the early part of this paper. My experience is based on only one case, that of a lady, fifty-six years of age, to whom I was called in consultation last October.

She had been feeling badly for a week, but had not taken to her bed. Three days before I saw her she was seized with a severe pain in the right supra-iliac region, extending down into the pelvis. A physician was not called until two days later. He found the patient in bed, with a pulse of 120; temperature, 102° F.; abdomen tympanitic, and complaining of great pain in the right side. He suspected pelvic peritonitis, and for that reason suggested a consultation with me. When I saw the case, the temperature was 103° F., the right side of the abdomen, from the iliac fossa up to the twelfth rib, was very tender to the touch, rather hard, and there was decided dullness just above the crest of the ilium, extending rather farther back than is usual in appendicitis. Per vaginam absolutely nothing could be felt. I, therefore, excluded pelvic peritonitis, and made the diagnosis of probable perityphlitis, on account of the location of the pain and dullness. I advised immediate operation; the patient was transferred to a private room at the Mt. Sinai Hospital at once, and I operated four hours after I first saw her. My diagnosis was correct; there was an intraperitoneal abscess behind the cecum, the peritoneal cavity being shut off by adhesions. The appendix was adherent, but normal. It was removed, and the wound packed with iodoform gauze. Recovery was slow but uneventful.

It is evident that the practical point of what has been said about perityphlitis and appendicitis, as compared with salpingo-oophoritis, relates to the differential diagnosis between the two diseases. The diagnosis once made, the treatment, whether medical or surgical, will be conducted on the lines laid down for each affection. I would merely remark that in case of doubt I would prefer making the incision in the right semilunar line, since, if it proves to be an appendicitis (suppurative or not) this is the shortest way to reach the seat of the disease. On the other hand, if the case is found to be one of salpingo-oophoritis, or pyosalpinx, or ovarian abscess, the diseased organ can quite as easily be removed through a lateral as through a median incision.

# FETAL TYPHOID FEVER AND THE WIDAL REACTION—REPORT OF A CASE.<sup>1</sup>

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When we come to a consideration of the acute infectious diseases we find that children may, in rare cases, inherit the disease directly, and be born suffering from it, or may in other rare instances complete the attack while still in utero. This has repeatedly happened in the case of variola, the children being born with the marks upon them. There are several well-authenticated cases on record in which pertussis appears to have been contracted during fetal life; and the fact that infants born of mothers who have had pertussis during pregnancy sometimes exhibit immunity to the disease has been urged as an argument that they had passed through an attack while still in utero. The same reasoning has been applied to rubeola; and it is certain that children have been born with the eruption of measles visible on them. In rare cases newborn children have been found to be suffering from malaria.

With regard to typhoid fever, the question has been more difficult of solution, since the symptoms are less well marked. Yet, cases of apparent typhoid fever in the newborn have been reported by Charceley, and Hastelius found lesions strongly suggesting the disease in a stillborn child of a mother dying from typhoid fever.

It is true that typhoid bacilli have repeatedly been reported as being present in the tissues of fetuses from typhoid mothers; yet, as Dürk has pointed out (*Münch. Med. Wochenschr.*, 842, September 8, 1896), some of these instances must be excluded from consideration, since the investigations were made at a time when the positive recognition of the

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The detection of the germs being always a difficult matter, the application of the new serum test of Pfeiffer and Widal in the case of the fetus and the newborn is of great interest. As yet but little has been accomplished in this direction. Widal and Sicard (*Bull. de l'Acad. de Méd.*, xxxvi, 347, 1896) obtained the reaction in the blood of the young born of a rabbit which had been inoculated six days before. Chambrelent and Saint Phillippe (*Journ. de Méd. de Bordeaux*, 502, March 15, 1896) found it in the blood of a typhoid mother, and also in that of the child born at the eighth month of pregnancy. The child evidently was ill, and exhibited an enlarged liver and a bronchial catarrh, but its symptoms were indefinite, so far as any indication of typhoid fever was concerned. No statement is made with regard to the child's temperature. Etienne (quoted by Widal and Sicard, *loc. cit.*), on the other hand, failed to find the reaction in the blood of a fetus, although that of the mother responded positively. Charrier and Apert (*La Méd. Mod.*, No. 11, 1896) also failed to find a reaction in the blood of a three-months' fetus, although the blood from the placenta gave it.

In this connection the following instance is of interest: A family epidemic of typhoid fever occurred in the practice of Dr. J. M. O'Malley of Philadelphia, and the father, mother, and three children, the oldest being five years of age, were brought to St. Agnes Hospital during my term of service there. On November 18, 1896, the mother, still ill with fever in the hospital, gave birth, at term, to a well-developed child. It is uncertain just how long she had been ill at this date, for the attack was a rather light one; but rose spots were present on admission on November 13th, and by November 23d the temperature had fallen to normal. It is safe to conclude that the attack was probably in the third week when labor took place. The infant seemed healthy in every respect, except for a slight transitory jaundice. The temperature taken for a couple of days was normal; and as the infant remained entirely well, to all appearance, no further records were made. Blood was taken from the mother and from the child, but, through an error, the examination was of no value. Early in January, the child being then about seven weeks old, a second specimen of blood was obtained, and submitted to Dr. Peckham, at the Laboratory of Hygiene of the University of Pennsylvania. Widal's test showed that in four minutes the bacilli became

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The conclusion that must be drawn from this case is either that the child had had typhoid fever in utero, and recovered after a very short attack, or that the agglutinating principle had passed through the placenta from the mother to the fetus, without the latter having contracted the disease at all. How the case should be interpreted it is impossible to determine, in the present state of our knowledge. There remains also the hypothesis that the child had imbibed the principle with the mother's milk, but this seems unlikely. Analogy to other infectious diseases, and the fact that fetal typhoid fever does occur, as already pointed out, render the first supposition most probable, *viz.*, that the child, when born, had already had an attack of the fever.

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**Classification.**—For the purposes of the practical surgeon a good working classification of septic peritonitis is a desideratum at the present time. Without detracting in the least from Professor Senn's admirable groupings under the headings of anatomic, etiologic, pathologic, bacteriologic, and clinical, it must be confessed that in all probability the last-named, with perhaps some modifications, will be found most acceptable to the every day practitioner.

Custom has sanctioned, to a certain extent, the use of the term "general septic peritonitis." The term "diffuse peritonitis," however, is more generally and logically applicable than that of "acute general peritonitis," for the reason so cogently stated by Dr. Abbe that it is impossible in any given case to state that absolutely every portion of the peritoneum has been invaded. For this reason, therefore, the term "diffuse septic peritonitis," it would seem, is to be preferred to that of "general peritonitis."

So too, with the term "perforative peritonitis." This carries with it the etiologic factor involved in its occurrence, and conveys at once the idea of the possibility of successful remedial measures and the necessity for their immediate application, if the patient is to obtain the best results from surgical intervention.

"Circumscribed" or localized peritonitis is like-

wise a term which appeals to the surgical clinician. Every practitioner realizes what is to be confidently expected under conditions of strict localization of peritoneal inflammation, provided proper and timely surgical measures are introduced into the case. If a relatively positive diagnosis of localization of the peritoneal inflammation, as distinguished from the diffuse form, can be made, a weight of anxiety and responsibility is lifted from the shoulders of the attendant.

The more recently introduced term "hematogenous peritonitis" likewise has its uses, although the rarity of the condition is now generally recognized. It is certainly to be preferred to the sometime popular, although awkwardly expressed, "cryptogenic septicopyemia," a term which savors, to a great extent, of an attempt to take refuge behind the barrier of a high-sounding name in order to escape the necessity of exposing our ignorance.

The frequent occurrence of septic peritonitis of puerperal origin is a sufficient warrant for the use of the term "puerperal peritonitis," aside from the fact that the condition presents striking clinical peculiarities, as well as definite therapeutic indications. The obstetric surgeon particularly, will, without doubt, endorse the retention of this term in the nomenclature of disease.

Although no sharp line can be drawn between the peritoneum of the pelvis and that of the cavity of the abdomen, yet the clinical picture suggested by the term "pelvic peritonitis," if it be understood that by this is meant a peritonitis originating from the female genitals, appeals at once to the experienced practitioner. While pelvic peritonitis is circumscribed peritonitis in a sense, yet the conditions present, as well as the etiologic factors introduced, differ so widely from localized peritonitis as generally understood, that there would appear to be no good reason for dropping this term from general use.

The form of local peritonitis embraced under the general head of "subphrenic abscess," has only recently been removed from the class of cases which permitted of diagnosis in the dead-house almost exclusively. The condition now claims attention at the hands of the clinical investigator, and instances are multiplying daily which serve to demonstrate that a proper appreciation of the conditions present is not only possible at the hands of skilled consultants, but that its recognition by the average medical attendant is demanded as well. Inasmuch as these abscesses have for their manifestation a localized suppurative inflammatory lesion of the peritoneum, either alone or in connection with an infection of the connective-tissue proliferation involved in the formation of peritoneal adhesions, the substitution of the term "subdiaphragmatic peritonitis" for "sub-

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*Prognosis of Bacterial Invasion of the Peritoneum.*

—Inasmuch as the general consensus of opinion at the present day among investigators holds the practitioner to the view that peritonitis is exclusively of bacterial origin, the question of prognosis of infectious peritonitis, in the general sense, as in inflammatory infectious conditions elsewhere, simply relates to the balance to be struck between virulency and extent of infection on the one hand, and the degree of vital resistance on the other. With a small amount of even a comparatively innocuous germ present, a fatal peritonitis may follow prolonged handling and consequent extensive abrasions of the peritoneal surfaces, and a comparatively slight traumatism, in the presence of a streptococcus pyogenes infection, may be followed likewise by a fatal result. Further, it has been shown by Grawitz that the peritoneum is tolerant of a certain amount of even highly infectious material, provided there is nothing present that can furnish the pabulum necessary for the growth and increase of the bacteria. Up to a certain point the serous membrane is capable of destroying the bacteria, but beyond this its power ceases, and the irritating properties of the toxic products of the microorganisms assert themselves. Finally, it should be borne in mind that it is not necessary for bacteria to multiply in order to produce peritonitis. Their contact with the peritoneum under circumstances which likewise become the occasion for transudation of serum, effusion of blood, or injury to and perhaps sloughing of tissues, or the simultaneous entrance of other substances which may serve as proper nutritive material, such as feces, affords opportunity for the production of those toxic substances upon which their irritating properties depend, without the necessity for increase in number of the bacteria themselves.

The methods of invasion of the peritoneum will largely govern the outcome of the infection. These methods of invasion are self evident. They include introduction from without through wounds involving both skin and peritoneum; passage through perforation, the result of a traumatism or destructive inflammatory lesion of some hollow viscera; by penetration of the walls of the viscera because of the impairment of the nutrition of such wall; by progressive and continuous growth of bacteria in the substance of the wall of a viscus the seat of a septic inflammation, such as the uterus; and finally, by infection through the blood- or lymph-vessels from some more or less distant focus.

The occurrence of peritonitis without the actual presence of bacteria is of great interest in this connection. This may occur if their toxins reach the serosa, which they may do, by penetration of the

visceral walls without the presence of any actual lesion. It is now likewise believed that the bacteria themselves may pass through a visceral wall without multiplication, as well as without exciting any apparent disturbances in those tissues, as in the instance of the wall of a hernial sac.

A further question of great interest in connection with this subject is that of the germicidal power of the serous effusion of the peritoneal cavity. Like the blood serum elsewhere, the serum of the peritoneum possesses to a certain extent the power of destroying even the most virulent microorganisms. There is a limit to this power, however, and when this is reached the bacteria remaining undestroyed find at once the proper pabulum for their numerical increase, as well as the development of the toxic substances upon which their pathologic properties depend. To this germicidal power of the peritoneal effusion upon the one hand, and the now well-known fact first established by the experiments of Wieland that the bacteria in encapsulated abscesses in the peritoneal cavity tend to die out upon the other, is to be attributed the occasional recoveries ensuing in instances where the operative procedure reveals a large amount of thin and opaque serum, the result of rupture of a seropurulent intraperitoneal collection, with an appendical lesion as the original focus of infection. The intestines float in an abundance of this fluid, yet both the visceral and the parietal peritoneum are scarcely injected, much less actively inflamed. A number of such instances have come under my observation in which uninterrupted recovery has followed incision, removal of the original focus of infection, and gauze drainage. In none of these cases have I been able to directly demonstrate bacteriologically the sterility of the abdominal fluid, but this does not alter the fact that the recoveries were due either to the germ resisting and destroying powers of the peritoneum, to a slow process of sterilization of the contents of the original encapsulation, or both. Besides, no amount of negative evidence in a test-tube appeals so strongly to the surgeon's senses as the presence of normal intestines floating about in sero-pus, the latter bathing everything in sight—and yet not the slightest trace of infection, as evidenced by tinge of abnormal hue, to be seen, to say nothing of the circumstance of recovery without the supervention of the first symptom of local or constitutional disturbance.

The most dangerous of these modes of entrance is that which involves a perforation of the intestinal wall of the small intestine, and the least dangerous that which occurs in connection with a wound of the abdominal wall. In the first mentioned, not only is there a great number of bacteria which escape into

the peritoneal cavity, but these are most virulent in character and are accompanied by toxins, the result of their growth in the intestinal canal. There likewise is deposited upon the peritoneal surfaces fecal matter which acts in the dual capacity of a pabulum for the growth of the bacteria, and an irritant which excites serous exudation. The latter, as soon as its germicidal power is exhausted, also becomes a rich culture medium for the propagation of the germs. It is this "concatenation of adverse circumstances" which accounts for the high mortality following this accident. The size of the perforation and the rapidity with which the contents of the intestine escape will govern, to some extent, the prognosis in cases of intestinal perforation. When the small intestine is the seat of the perforation the fecal matter may be poured out rapidly and a diffuse septic peritonitis from mixed infection promptly follow. In perforation involving the large intestine the exit of fecal matter may be comparatively slow; adhesive protective barriers are thrown out before diffusion of the infecting agents occurs. The infection is thereby limited and a localized suppurative peritonitis follows, as, for instance, in peri- and paracecal abscess (suppurative perityphilitis).

If, however, a diffuse instead of a circumscribed suppurative inflammation follows the infection, as occurs in the great majority of perforations involving the small intestine, there occurs a train of most dangerous symptoms due to the absorption of septic material from the extensive surface area of this enormous lymph sac.

The least dangerous of the modes of entrance is that which occurs in connection with a wound of the abdominal wall. But a comparatively small number of bacteria are introduced in this manner, probably not more, in the majority of instances, than the peritoneum itself is able to destroy by its serum. These circumstances explain the comparative immunity from danger of many cases of abdominal section for non-suppurative lesions of the uterine appendages at the hands of surgeons who boast of their neglect to protect their patients by the employment of an antibacterial operative technic.

Concomitant circumstances may arise to render the last-mentioned mode of bacterial invasion most dangerous, as, for instance, the simultaneous occurrence of contusion of the peritoneal surfaces, laceration of some of the hollow viscera, the occurrence of hemorrhage, or the presence of a foreign body. Per contra it may happen, as before stated, that a small perforation with slow escape of the contents of the intestine may lead to encapsulation by adhesive barriers and protection of the general peritoneal cavity.

Between these two extremes are to be mentioned, in the order of their gravity—first, invasion through perforations or wounds of viscera, other than intestine, including the kidneys, pancreas, and biliary ducts, ureters, etc., and the eruption of a neighboring abscess, save only when the pus of the latter is sterile. Second, the entrance of bacteria by continuous inflammatory growth through the walls of a portion of the intestinal canal or other hollow viscus. While the mode of invasion here is dangerous from the fact that a large number of bacteria may find their way to the peritoneal surface in a short time, the method of entrance may be resisted by the formation of adhesions upon the menaced serous surface. As an instance of this manner of bacterial invasion may be mentioned the successive occurrence of endo-appendicitis, parietal appendicitis, and finally peri-appendicitis. Third, infection of the peritoneum by way of the Fallopian tubes. The comparatively lessened dangers of this route of infection relate (*a*) to the fact that the source of bacterial supply is not large, the endometrium possessing a high degree of vital resistance and its secretion rendering its cavity in most instances sterile, as shown by Warbasse's investigations; (*b*) to the relatively low grade of virulency of the two kinds of bacteria most frequently found in tubal infection, namely, the gonococcus and the bacillus tuberculosis; and (*c*) ample opportunity is usually afforded for the production of competent adhesive barriers, including those which seal the opening of the tube and confine the infection to the latter and its immediate vicinity. Fourth, those cases in which the bacterial migration takes place through the wall of the intestine as the result of nutritive disturbances of the latter, such for instance as occurs in strangulated hernia. Comparatively few bacteria escape in this manner, while at the same time there is a copious effusion of serum. The germicidal power of the latter is sufficient to destroy the bacteria if the latter are not too numerous. This accounts for the fact that in later years other sources of infection being guarded against, relatively few cases of diffuse peritonitis follow operations for strangulated hernia, unless gangrene and perforation of the bowel wall has taken place.

In estimating the prognosis of peritonitis the practical surgeon will be compelled to take into account the source and virulency of the infection, the mode of entrance of the bacteria, the concomitant circumstances of injury to the viscera, hemorrhage and large serous exudations, and last but not least, the extent of the localization of the infection on the one hand and its generalization on the other. A case of the most violently infectious peritonitis, if

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When we come to a consideration of the acute infectious diseases we find that children may, in rare cases, inherit the disease directly, and be born suffering from it, or may in other rare instances complete the attack while still in utero. This has repeatedly happened in the case of variola, the children being born with the marks upon them. There are several well-authenticated cases on record in which pertussis appears to have been contracted during fetal life; and the fact that infants born of mothers who have had pertussis during pregnancy sometimes exhibit immunity to the disease has been urged as an argument that they had passed through an attack while still in utero. The same reasoning has been applied to rubeola; and it is certain that children have been born with the eruption of measles visible on them. In rare cases newborn children have been found to be suffering from malaria.

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*Prognosis of Bacterial Invasion of the Peritoneum.*  
—Inasmuch as the general consensus of opinion at the present day among investigators holds the practitioner to the view that peritonitis is exclusively of bacterial origin, the question of prognosis of infectious peritonitis, in the general sense, as in inflammatory infectious conditions elsewhere, simply relates to the balance to be struck between virulency and extent of infection on the one hand, and the degree of vital resistance on the other. With a small amount of even a comparatively innocuous germ present, a fatal peritonitis may follow prolonged handling and consequent extensive abrasions of the peritoneal surfaces, and a comparatively slight traumatism, in the presence of a streptococcus pyogenes infection, may be followed likewise by a fatal result. Further, it has been shown by Grawitz that the peritoneum is tolerant of a certain amount of even highly infectious material, provided there is nothing present that can furnish the pabulum necessary for the growth and increase of the bacteria. Up to a certain point the serous membrane is capable of destroying the bacteria, but beyond this its power ceases, and the irritating properties of the toxic products of the microorganisms assert themselves. Finally, it should be borne in mind that it is not necessary for bacteria to multiply in order to produce peritonitis. Their contact with the peritoneum under circumstances which likewise become the occasion for transudation of serum, effusion of blood, or injury to and perhaps sloughing of tissues, or the simultaneous entrance of other substances which may serve as proper nutritive material, such as feces, affords opportunity for the production of those toxic substances upon which their irritating properties depend, without the necessity for increase in number of the bacteria themselves.

The methods of invasion of the peritoneum will largely govern the outcome of the infection. These methods of invasion are self evident. They include introduction from without through wounds involving both skin and peritoneum; passage through perforation, the result of a traumatism or destructive inflammatory lesion of some hollow viscera; by penetration of the walls of the viscera because of the impairment of the nutrition of such wall; by progressive and continuous growth of bacteria in the substance of the wall of a viscus the seat of a septic inflammation, such as the uterus; and finally, by infection through the blood- or lymph-vessels from some more or less distant focus.

The occurrence of peritonitis without the actual presence of bacteria is of great interest in this connection. This may occur if their toxins reach the serosa, which they may do, by penetration of the

visceral walls without the presence of any actual lesion. It is now likewise believed that the bacteria themselves may pass through a visceral wall without multiplication, as well as without exciting any apparent disturbances in those tissues, as in the instance of the wall of a hernial sac.

A further question of great interest in connection with this subject is that of the germicidal power of the serous effusion of the peritoneal cavity. Like the blood serum elsewhere, the serum of the peritoneum possesses to a certain extent the power of destroying even the most virulent microorganisms. There is a limit to this power, however, and when this is reached the bacteria remaining undestroyed find at once the proper pabulum for their numerical increase, as well as the development of the toxic substances upon which their pathologic properties depend. To this germicidal power of the peritoneal effusion upon the one hand, and the now well-known fact first established by the experiments of Wieland that the bacteria in encapsulated abscesses in the peritoneal cavity tend to die out upon the other, is to be attributed the occasional recoveries ensuing in instances where the operative procedure reveals a large amount of thin and opaque serum, the result of rupture of a seropurulent intraperitoneal collection, with an appendical lesion as the original focus of infection. The intestines float in an abundance of this fluid, yet both the visceral and the parietal peritoneum are scarcely injected, much less actively inflamed. A number of such instances have come under my observation in which uninterrupted recovery has followed incision, removal of the original focus of infection, and gauze drainage. In none of these cases have I been able to directly demonstrate bacteriologically the sterility of the abdominal fluid, but this does not alter the fact that the recoveries were due either to the germ resisting and destroying powers of the peritoneum, to a slow process of sterilization of the contents of the original encapsulation, or both. Besides, no amount of negative evidence in a test-tube appeals so strongly to the surgeon's senses as the presence of normal intestines floating about in sero-pus, the latter bathing everything in sight—and yet not the slightest trace of infection, as evidenced by tinge of abnormal hue, to be seen, to say nothing of the circumstance of recovery without the supervention of the first symptom of local or constitutional disturbance.

The most dangerous of these modes of entrance is that which involves a perforation of the intestinal wall of the small intestine, and the least dangerous that which occurs in connection with a wound of the abdominal wall. In the first mentioned, not only is there a great number of bacteria which escape into

the peritoneal cavity, but these are most virulent in character and are accompanied by toxins, the result of their growth in the intestinal canal. There likewise is deposited upon the peritoneal surfaces fecal matter which acts in the dual capacity of a pabulum for the growth of the bacteria, and an irritant which excites serous exudation. The latter, as soon as its germicidal power is exhausted, also becomes a rich culture medium for the propagation of the germs. It is this "concatenation of adverse circumstances" which accounts for the high mortality following this accident. The size of the perforation and the rapidity with which the contents of the intestine escape will govern, to some extent, the prognosis in cases of intestinal perforation. When the small intestine is the seat of the perforation the fecal matter may be poured out rapidly and a diffuse septic peritonitis from mixed infection promptly follow. In perforation involving the large intestine the exit of fecal matter may be comparatively slow; adhesive protective barriers are thrown out before diffusion of the infecting agents occurs. The infection is thereby limited and a localized suppurative peritonitis follows, as, for instance, in peri- and paracecal abscess (suppurative perityphilitis).

If, however, a diffuse instead of a circumscribed suppurative inflammation follows the infection, as occurs in the great majority of perforations involving the small intestine, there occurs a train of most dangerous symptoms due to the absorption of septic material from the extensive surface area of this enormous lymph sac.

The least dangerous of the modes of entrance is that which occurs in connection with a wound of the abdominal wall. But a comparatively small number of bacteria are introduced in this manner, probably not more, in the majority of instances, than the peritoneum itself is able to destroy by its serum. These circumstances explain the comparative immunity from danger of many cases of abdominal section for non-suppurative lesions of the uterine appendages at the hands of surgeons who boast of their neglect to protect their patients by the employment of an antibacterial operative technic.

Concomitant circumstances may arise to render the last-mentioned mode of bacterial invasion most dangerous, as, for instance, the simultaneous occurrence of contusion of the peritoneal surfaces, laceration of some of the hollow viscera, the occurrence of hemorrhage, or the presence of a foreign body. Per contra it may happen, as before stated, that a small perforation with slow escape of the contents of the intestine may lead to encapsulation by adhesive barriers and protection of the general peritoneal cavity.

Between these two extremes are to be mentioned, in the order of their gravity—first, invasion through perforations or wounds of viscera, other than intestine, including the kidneys, pancreas, and biliary ducts, ureters, etc., and the eruption of a neighboring abscess, save only when the pus of the latter is sterile. Second, the entrance of bacteria by continuous inflammatory growth through the walls of a portion of the intestinal canal or other hollow viscus. While the mode of invasion here is dangerous from the fact that a large number of bacteria may find their way to the peritoneal surface in a short time, the method of entrance may be resisted by the formation of adhesions upon the menaced serous surface. As an instance of this manner of bacterial invasion may be mentioned the successive occurrence of endo-appendicitis, parietal appendicitis, and finally peri-appendicitis. Third, infection of the peritoneum by way of the Fallopian tubes. The comparatively lessened dangers of this route of infection relate (*a*) to the fact that the source of bacterial supply is not large, the endometrium possessing a high degree of vital resistance and its secretion rendering its cavity in most instances sterile, as shown by Warbasse's investigations; (*b*) to the relatively low grade of virulence of the two kinds of bacteria most frequently found in tubal infection, namely, the gonococcus and the bacillus tuberculosis; and (*c*) ample opportunity is usually afforded for the production of competent adhesive barriers, including those which seal the opening of the tube and confine the infection to the latter and its immediate vicinity. Fourth, those cases in which the bacterial migration takes place through the wall of the intestine as the result of nutritive disturbances of the latter, such for instance as occurs in strangulated hernia. Comparatively few bacteria escape in this manner, while at the same time there is a copious effusion of serum. The germicidal power of the latter is sufficient to destroy the bacteria if the latter are not too numerous. This accounts for the fact that in later years other sources of infection being guarded against, relatively few cases of diffuse peritonitis follow operations for strangulated hernia, unless gangrene and perforation of the bowel wall has taken place.

In estimating the prognosis of peritonitis the practical surgeon will be compelled to take into account the source and virulence of the infection, the mode of entrance of the bacteria, the concomitant circumstances of injury to the viscera, hemorrhage and large serous exudations, and last but not least, the extent of the localization of the infection on the one hand and its generalization on the other. A case of the most violently infectious peritonitis, if

localized, may recover, providing proper and timely surgical aid be rendered, and its suppurative products evacuated. It is equally true, likewise, that a comparatively mild, yet widely diffused infection may destroy life, the general system finally becoming overpowered by the toxic products furnished by absorption from an extensively involved area of serous membrane.

*Treatment.*—With the measures designed to meet the conditions present in a localized suppurative peritonitis, I need scarcely detain you in this discussion. Free incision and proper drainage cover the ground completely. The large majority of cases so treated recover as promptly and satisfactorily as where the same principles of treatment are applied to a suppurative collection elsewhere. In the very recent past the almost unqualifiedly favorable prognosis which the surgeon was able to give in cases of localized suppurative peritonitis was as absolutely reversed in the case of advanced diffuse septic peritonitis as is the day removed from the night, no matter what treatment was pursued. So great are the difficulties in the way of the complete emptying, disinfecting, and draining of the peritoneal cavity, and so dire are the effects upon the vital centers of the enormous quantities of toxic products which find their way from the extensive area involved in the infection, that the surgeon has been almost absolutely without resource in the face of this condition of affairs. He is handicapped at every turn. Persistent vomiting and the early intolerance of the rectum to nutrient enemata prevent him from reinforcing the patient's fast-waning strength, and paralysis of peristalsis robs him of the most efficient non operative method of drainage of the peritoneum. The passage of fecal matter into the stomach adds the damaging effects of stercoræmia to the already existing toxæmia. These, together with the weak and rapid pulse, vasomotor paralysis, and mental habitude, combine to stamp the condition as almost absolutely hopeless.

Before these symptoms of systemic infection have advanced to this stage, however, there is a period varying from a few hours to a day or two, during which these symptoms are less aggravated or perhaps absent, and yet sufficient evidence of peritoneal inflammation is present to base a diagnosis upon. Herein resides the surgeon's opportunity. In proportion to the ability on the part of the medical attendant to recognize the true state of affairs early, and his willingness to share the responsibility of the case with the surgeon on the one hand, and the skill, judgment, and particularly moral courage of the latter on the other, will the prognosis in peritonitis improve.

During the past two years there have been a

number of cases of diffuse septic peritonitis operated upon successfully, and the matter has reached a stage where the surgeon's margin in escaping responsibility in not operating is becoming narrower and narrower. While there may be cases here and there where the patient's doom is sealed from the very commencement, yet, in view of the knowledge derived from the bacteriologic laboratory and experimentation upon animals, it is difficult to conceive of such a case. If the Lembert suture could close the perforation immediately upon its being made, or the gauze drain carry off the septic products as soon as these are produced, what, other things being equal, would kill the patient?

Still another ray of light has been cast into this dark recess of the surgeon's domain. Encouraged by the success that has followed the antitoxin serum treatment of diphtheria, experimenters have sought to produce an antitoxin to other pathogenic bacteria. The fact that the streptococci are of such importance as etiologic factors in phlegmonous inflammation, and are found so frequently associated with other micro-organisms in the most severe and complicated forms of infectious disease have led to a careful study of this microbic agent. As a result of these studies much has been learned from a biologic standpoint; what is of greater importance, however, if the hope of the present is realized in the future, an antitoxin has been developed for this germ.

Although not all experiences with the treatment of septic peritonitis by means of the streptococcus antitoxin have been favorable so far as a successful result is concerned, yet they have been such as to warrant further investigation of the new agent as a means of combating the general infection.

It would be out of place in a discussion of this character to enter elaborately into the subject of serum-therapy, but I may be pardoned if my estimate of the importance of this subject leads me to refer to the recent experiences of some of my colleagues in New York, as well as of my own. The interest in these cases is enhanced by the fact that some of them have not yet been published.

Dr. Howard Lilienthal has kindly placed at my disposal abstracts of three cases bearing upon this question. The first was a case of perforative appendicitis followed by diffuse septic peritonitis. At the operation (June, 1896) pus and feces were present in the peritoneal cavity. One injection of 12½ c.c. of the streptococcus antitoxin was administered. A secondary intraperitoneal abscess required surgical intervention some days later. Recovery ensued. The second was a case of diffuse peritonitis from disease of the uterine appendages treated by operation. The temperature dropped to normal after one

injection of streptococcus antitoxin. Death followed from paralysis of peristalsis. The third case was that of a boy of ten who was suffering from diffuse peritonitis caused by appendicitis, and who was almost moribund at the time of the operation. The patient died even though the antitoxin was administered.

Dr. M. R. Richard, of New York, in a personal communication gives me the details of a most interesting experience with the serum of Dr. Marmorek of the Pasteur Institute in Paris. The patient was also seen by Drs. Mundé and Brettauer. The case was one of post-puerperal infection. Thorough curettement under chloroform failed to effect any amelioration in the symptoms. Five days afterward the temperature was  $106.2^{\circ}\text{F.}$ , the pulse 150, and the respirations 46. There was a fall of  $2^{\circ}$  one hour after a 10 c.c. injection of the Marmorek serum, and a further fall of  $2.2^{\circ}$  after the second, making a total fall of  $3.8^{\circ}$  in twelve hours. A fall of  $6^{\circ}$  took place in thirty-one hours. This patient recovered.

My own case is as follows:

A. V., aged twenty-nine, was seen by me in consultation late in the evening of April 9, 1897. A history of at least three previous attacks of appendicitis, occurring within the last four years, was obtained. Twenty-eight hours prior to my visit the first symptom of the present attack of appendicitis began. These progressed rapidly, and perforation had evidently taken place within twelve hours of the commencement of the attack. Efforts to obtain catharsis by means of calomel and sulphate of magnesia had proved ineffectual. When seen by me the temperature was  $103.5^{\circ}\text{F.}$ , and the pulse 130. The abdomen was distended, everywhere tympanitic, and extremely rigid. Maximum point of tenderness just below the umbilicus.

He was removed to the Brooklyn Hospital and the abdomen opened in the median line. A diffuse septic peritonitis with pus and fecal matter in the cavity of the peritoneum was found. About fifteen inches of ileum, was bluish black in color and necrotic in spots, and was bound firmly by adhesions in a mass in the median line. Parting the adhesions, a gangrenous and perforated appendix was discovered and removed. The cavity of the abdomen was thoroughly irrigated with sterilized salt solution, the incision being extended to gain access to the regions of the spleen and liver. The cavity was drained by gauze in four directions, supplemental incisions being made for the purpose, *i.e.*, in the hepatic, splenic, and iliac fossæ; gauze drains were also led out of the upper and lower angles of the median wound. Copious absorbent dressings were applied.

Within six hours of the operation the temperature dropped to  $98.6^{\circ}\text{F.}$ , the pulse to 110. At the end of twelve hours the temperature was found to be rising, having reached  $100^{\circ}\text{F.}$  and the pulse 140. At this time 12.5 c.c. of streptococcus antitoxin was injected in the left buttock. In spite of this, however, the temperature rose in eight hours to

$101.2^{\circ}\text{F.}$  A second injection of 12.5 c.c. was now given. In the course of the following eight hours the temperature had fallen a trifle over 1 degree, and the pulse to 116. A third injection was followed by another fall of .6 degrees, the pulse-rate being 94. In the course of the next eight hours the temperature rose a degree, and the pulse to 116. A fourth injection of 8.3 c.c. was now administered. No change in pulse and temperature followed this injection. A fifth injection of 8.3 c.c. was given after six hours; this was followed by a fall of the temperature to normal, but the pulse rose to 120. An injection of 8.3 c.c. every six hours was followed by a practically normal temperature, the pulse ranging from 114 to 120 for the next twelve hours. The temperature then rose to  $101^{\circ}\text{F.}$ , and the pulse to 126. From this time until his death, which took place on the fifth day following the operation, and the sixth of the disease, the temperature was practically uninfluenced by the serum, although the pulse-rate remained in the neighborhood of 100; just before his death, counted at the heart, it was 80.

Fecal vomiting, due to paralysis of peristalsis, was present at intervals for forty-eight hours before death. This was met with frequent lavage, the stomach tube being utilized after each lavage for the introduction of liquid food. The usual heart stimulants were likewise employed throughout the case. The *morale* of the patient was excellent until a few hours before death. There was likewise a complete absence of vasomotor paralysis until an hour before the lethal result. The daily excretion of urine was uninfluenced, and the slight albuminuria present before the operation was neither increased nor diminished by the treatment; 250 c.c. of the serum in all was used.

The autopsy revealed a gangrenous condition of the parietal and visceral layers of the peritoneum throughout almost the entire region of the small intestine. The peritoneal cavity everywhere was dry and clean. The most indubitable evidences of a diffuse, unlimited peritonitis were present.

The fact that the drainage was so complete, as revealed by the autopsy, taken in conjunction with the somewhat contradictory results of some of the injections as compared with others, leads me to express some doubt as to the influence which the serum exercised upon the course of the case.

The case reported by Dr. Egbert H. Grandin<sup>1</sup> is worthy of comment. The case was one of suppurative peritonitis due to a gangrenous and perforated appendix, which was removed by operation. The patient pulse was 90 and temperature  $100^{\circ}\text{F.}$  Hot salt water irrigation and gauze drainage from the median wound were practised. After a few days a pus cavity containing over a pint was evacuated on the left side, just above Poupart's ligament, a counter opening being made at the same time into the vagina, thus establishing thorough drainage. Upon the following day another series of pus pockets

was opened, irrigated, and drained. Upon the next succeeding day another incision uniting the two last was made upon the left side of the abdomen. It was upon this day that the streptococcus antitoxin was first used.

This patient recovered. In view of the fact that the reporter, in the early part of his article, expresses a doubt as to whether the entire abdomen had been infected, and later on relates how he opened and drained circumscribed collections of sero-pus; and the further fact that these most valuable and ordinarily efficient measures in circumscribed peritonitis had been instituted before the administration of the serum, there must remain a very decided doubt as to the part which the antitoxin played in bringing about the favorable result.

In perforative peritonitis, as before stated, a mixed infection is present in the vast majority of cases; while it is probably true that the streptococcus pyogenes is among the most virulent, if indeed it is not the most virulent microbial organism present under these circumstances, it is not by any means the only one capable of destroying life. With this fact before us, and the knowledge that the antitoxin of one class is powerless against another, it at once becomes evident that, in order to proceed rationally, the surgeon and bacteriologist must work side by side, an antitoxin to each pathologic bacterium being furnished, according to the findings.

And this is as it should be. The bacteriologist for years has been working out biologic problems in his laboratory, but only here and there has the every-day practitioner been able to avail himself of the knowledge thus gained. Among the notable instances of the practical application of this knowledge is the treatment of diphtheria by means of the antitoxin of its own infecting agent. If the claims made for this method of treatment are well-founded, there is no reason why immunization against the toxic substances produced in the life history of other germs should not be secured, providing the law that each microbial organism is capable of producing an agent antagonistic to its own toxic products—in other words, an antitoxin—holds good in all cases of bacterial infection. Now let bacteriologic science step forth and take its place among the specialties in practical medicine, for such a place surely awaits it. Backed by a diagnosis based upon a properly conducted bacteriologic examination, reinforced by means of systemic infection, if this occurs, and stimulated by a reasonable hope of eventually saving the patient's life, the surgeon will be emboldened to enter upon those extensive operations which, up to this time, while perfectly understood and appreciated by the bulk of the profession, have served not only to cast

undeserved opprobrium upon the individual operator at the hands of the laity, but to bring into disrepute surgical science and art as well.

**THE AMERICAN PEDIATRIC SOCIETY'S REPORT ON THE COLLECTIVE INVESTIGATION OF THE ANTITOXIN TREATMENT OF LARYNGEAL DIPHTHERIA IN PRIVATE PRACTICE. 1896-1897.**

In this second and supplementary investigation, the aim has been to ascertain: (1) What percentage of cases of laryngeal diphtheria recover without operation under antitoxin treatment? (2) What percentage of operated cases recover? The report now submitted may properly be limited to answering these two inquiries.

Since the beginning of the general use of intubation, no disease has been more thoroughly observed and more fully reported than laryngeal diphtheria. Operative cases, especially, without hesitation, whether ending fatally or favorably, have been fully and promptly put on record. The result has been a collection and tabulation of cases available for control, such as few diseases offer. There are thousands of intubation cases before the days of antitoxin, and thousands since, available for comparison. It is then to cases of laryngeal diphtheria, especially those requiring operative interference, that we may apply the crucial test of the value of the antitoxin treatment.

Sixty thousand circulars containing the following questions have been distributed:

Age of patient?

Diagnosis confirmed by:

1. Presence of other cases in the family?
2. Appearance of membrane elsewhere?
3. Bacteriologic cultures?

How many days and parts of a day after the first appearance of the disease was antitoxin first administered?

How many doses of antitoxin were administered?

Dose of each injection in antitoxin units?

Whose antitoxin used?

Non-operative cases—evidence of disease:

Hoarseness?

Aphonia?

Stenosis?

Operative cases:

1. Intubation? On what day?

2. Tracheotomy? On what day?

How long, in days and fraction of a day, was tube in the larynx or trachea?

Sequelæ (in recoveries):

1. Bronchopneumonia?

2. Paralysis?

3. Nephritis?

Death, cause of, and on what day?

1. Bronchopneumonia?

2. Extension of membrane to the bronchi?

3. Sudden heart paralysis?

4. Nephritis?

5. Sepsis?

6. Accidents of operation?

Recovery?

Remarks, especially on fatal cases?

These circulars were distributed throughout the United States and Canada, the following means being employed: Contributors to first reports, members of the Society acting as agents for their respective localities, boards of health, local medical societies, and antitoxin manufacturers. At the outset, in this connection, it is a pleasure to acknowledge that the labors of the committee have been much lightened by the uniform good-will of all addressed, more aid coming spontaneously than in the previous investigation. It is also a pleasure to especially acknowledge the Society's indebtedness for efficient aid in distributing circulars and securing returns to the H. K. Mulford Co., Parke, Davis & Co., Lehn & Fink (Gibier's), the Health Departments of Chicago, St. Louis, New Orleans, Denver, San Francisco, Boston, Washington, Buffalo, Providence, Ann Arbor, Newark, Montreal, Toronto, and others.

To the New York Health Department is due the thanks of the Society for every possible courtesy in distributing blanks, and, through their inspectors, of securing returns of operative cases.

In order to reduce sources of error it was desirable to bring together a large number of cases, from widely distributed localities, from many different observers and operators, and from a period of time including all seasons of the year. All returns have been examined by the committee, and only such cases accepted as bore satisfactory evidence that they were first of all diphtheria, and secondly that the lesion had invaded the larynx.

A total of 1704 cases of laryngeal diphtheria are ours for present study. A few cases (228) had not satisfactory evidence that there was laryngeal involvement; indeed, some were reported through misunderstanding the fact that only laryngeal cases were wanted, and a few were reported in which there was no mention that antitoxin was used. These cases are, of course, not included in the number referred to above; 218 of them ended in recovery and only 10 were fatal.

In a total of 1704 antitoxin-treated cases of laryngeal diphtheria, there was a mortality of 21.12 per cent. (360 deaths).

TABLE OF ALL CASES SHOWING AGE AND RESULT OF TREATMENT.

	Fatal Cases.	Recoveries.	Totals.	Mortality.
1 year and under,	25	35	60	41.66 per cent.
1 to 2 years, -	77	219	296	26.01 per cent.
2 to 3 years, -	81	260	341	23.75 per cent.
3 to 4 years, -	42	216	258	16.27 per cent.
4 to 5 years, -	47	160	207	22.70 per cent.
5 to 10 years,	72	345	417	17.26 per cent.
10 to 15 years, -	9	64	73	12.32 per cent.
15 to 20 years,	2	24	26	7.65 per cent.
Over 20 years, -	5	17	22	22.72 per cent.
Unknown, -	0	4	4	
	360	1344	1704	21.12 per cent.

#### CASES NOT OPERATED ON.

The first inquiry of the circular was What percentage of cases of laryngeal diphtheria recover without operation under antitoxin treatment?

Of 1704 total cases, 1036 were not operated upon (60.79 per cent). Of these, most did not require operative interference, a few cases were thought to require it, but operation was refused. All cases are included, and it will be noted there are no eliminations.

Among the 1036 cases not operated on, there was a mortality of 17.18 per cent. (178 deaths), or, to answer the inquiry of the circular exactly, of 1036 cases not operated on, 82.82 per cent. recovered (or 858 cases).

As good as is this percentage of recovery in so large a number of cases of diphtheria of the severest type, it is believed it is not as good as it ought to be. Cases of laryngeal diphtheria not requiring operation, according to the testimony of consulting intubationists, are seldom heard from a second time, and less often find their way into reports. It was formerly estimated that about 10 per cent. of cases of laryngeal diphtheria recovered without operation. The present report shows that in 1036 cases 82.82 per cent. recovered.

#### CASES OPERATED UPON.

In analyzing this class of cases, it is believed a more exact conclusion as to the value of the antitoxin treatment can be arrived at than in the non-operative.

There will be entire harmony of opinion as to the severity of laryngeal diphtheria which requires operative interference. In the early days of intubation it was customary to speak of the percentage of recoveries, and twenty-five per cent. and twenty-seven per cent. were considered good results. In the last report the recoveries had crept up so high in the one hundred cases that it seemed more natural to speak of the percentage of mortality.

In this connection it is interesting to inquire what

were the most reliable statistics of intubation, taking cases as they occurred, without selection, in pre-antitoxin days. In 5546 intubation cases collected by McNaughton and Maddren in 1892, the mortality was 69.5 per cent., or, to bring the facts into line, 30.5 per cent. recovered.

O'Dwyer's personal experience, in private consultation, brings us more nearly face to face with the old-time experience with diphtheria. Note that the following 500 cases came under the observation and care of one practitioner, a skilled operator, extended over a dozen years of time, and therefore included all types of the disease.

Exclusive of the first 100 cases of intubation, which he (O'Dwyer) regards as experimental, the results stand as follows:

2d.	. . .	100 intubations,	recoveries, 27 per cent.
3d.	. . .	100 "	" 30 "
4th.	. . .	100 "	" 26 "
5th.	70 in the 100	" "	" 27 "

Total percentage of *recoveries*, 27.56 per cent. When he had reached 70 in the fifth hundred something occurred which carried the phraseology up over the divide, so that it was appropriate to speak of percentage of *mortalities*. At this point in history antitoxin arrived, and interrupted forever the old series. In O'Dwyer's next fifty-nine cases the *mortality* was fourteen deaths, or 23.7 per cent.

In a total of 1704 laryngeal cases there were 668 cases operated upon. In the 668 there were 182 deaths, or a mortality of 27.24 per cent. In the former report, in 553 intubated cases the mortality was 25.9 per cent. In approximate figures there is a difference between 27¼ per cent. and 26 per cent.

#### SUMMARY.

Sixty thousand circulars were distributed throughout the United States and Canada.

Time allowance, the eleven months ending April 1, 1897.

Whole number of cases in this report, 1704; mortality, 21.12 per cent. (360 deaths).

The cases occurred in the practice of 422 physicians in the United States and Canada.

Operations employed:

(a) Intubation in 637 cases; mortality, 26.05 per cent. (166 deaths).

(b) Tracheotomy in 20 cases; mortality, 45 per cent. (9 deaths).

(c) Intubation and tracheotomy in 11 cases; mortality, 63.63 per cent. (7 deaths).

Number of States represented, twenty-two, the District of Columbia, and Canada.

Non-operated cases, 1036—60.79 per cent. of all cases; mortality, 17.18 per cent. (178 deaths).

Operated cases, 668, or 39.21 per cent. of all cases; mortality, 27.24 per cent. (182 deaths). Two facts may be recalled in connection with this paragraph. (1) That before the use of antitoxin it was estimated that 90 per cent. of laryngeal diphtheria cases required operation, whereas now, with the use of antitoxin, 39.21 per cent. require it. (2) That the percentage figures have been reversed, formerly 27 per cent. approximately representing the recoveries, whereas now, under antitoxin treatment, 27 represents the mortality. To put it in other words, before the use of antitoxin, 27 per cent. recovered; now 73 per cent. recover, and this in the severest type of diphtheria.

The present report will strike many members of the Society as revealing a mortality too large in each of the two classes. The mortality is large—larger than the personal experience in private practice of many would expect.

The reasons for this are (1) that antitoxin is still used too late, either from procrastination on the part of the physician, or objection on the part of the friends, or (2) in a half-hearted way, which shows itself in doses from one-tenth to one-fourth as large as they should be. In truth, both the physicians and the friends of the patient are timid.

This report, it must be admitted, shows too large a mortality. In the opinion of the Committee it is a larger mortality than will ever be shown again. Antitoxin is gradually being used earlier in the disease, and it will soon be used in sufficient doses.

To the Society, the Committee desires to say that it has sought to carry out their wishes in putting antitoxin on trial, to accept no testimony that did not bear the stamp of reliability, that it has employed the methods approved in the case of the first investigation and report, and that it has confined its work to definitely answering the main questions which the Society and profession now have in mind. Points that were settled in the first report and have since been corroborated by general medical literature are not again taken up.

If the Committee is asked to put forth the three most valuable points established in this eleven-months' work, they are:

1. The mortality of laryngeal diphtheria at present rests at 21.12 per cent.
2. That 60 per cent., approximately, have not required intubation.
3. That the mortality of operated cases is at present 27.24 per cent.

(Signed) W. P. NORTHRUP, M.D.  
JOSEPH O'DWYER, M.D.  
L. EMMETT HOLT, M.D.  
SAMUEL S. ADAMS, M.D.

## THE COMMITTEE RECOMMENDS:

Antitoxin should be given at the earliest possible moment in all cases of suspected diphtheria.

*Quality.*—Of the products on the market some have, by test, been found to contain one-half to one-third the antitoxin units stated on the label. Select the most concentrated strength of an absolutely reliable preparation.

*Dosage.*—All cases of laryngeal diphtheria, the patient being two years of age or over, should receive as follows:

First dose—2000 units at the earliest possible moment.

Second dose—2000 units, twelve to eighteen hours after the first dose if there is no improvement in symptoms.

Third dose—2000 units, twenty-four hours after the second dose, if there is still no improvement in symptoms.

Patients under two years of age should receive 1000 to 1500 units, the doses to be repeated as above.

## CLINICAL MEMORANDUM.

## ADHERENT PREPUCE AS A CAUSE OF CONVULSIONS IN CHILDREN.

By J. HERBERT DAREY, M.D.,  
OF NORTHWOOD, IOWA.

DURING the past year I have met with three cases of stupor and convulsions in male children, to which no other cause could be assigned than the presence of a prepuce adherent to the glans penis. All of the patients were promptly relieved by operation. These cases have strongly impressed me with the importance of a careful and thorough examination of the prepuce and glans penis in all cases of convulsions occurring in male children, when all other possible causes of reflex irritation have been eliminated.

CASE I.—Seen in consultation with Dr. D. S. More of Northwood, March 18, 1896. The patient, aged two years, had been under observation for a week or ten days, and during this time had been in a condition of stupor, from which he could be aroused only with difficulty, and into which he would immediately relapse after having been shaken. His head was normal in size, and no symptoms of brain pressure were present. The pupils were normal, and reacted readily to light. There was no trouble with his dentition. Micturition was very frequent. Anthelmintics and purgatives had been administered, with negative results. The foreskin at the meatus was red and irritated, and on passing a probe beneath it adhesions were found between its under surface and the glans.

The prepuce was divided and the adhesions separated, but as the former was not unduly elongated, circumcision was not performed. The wound was dressed with iodoform gauze soaked in carbolized oil, and the patient was put on drop doses of aconite, as his temperature varied

from 102° to 104° F. The results were all that could be desired. The wound quickly healed, and in a few days he rallied from his condition of stupor, his temperature dropped to normal, and he has been well ever since.

CASE II.—This patient was also seen in consultation with Dr. More, on April 4, 1896. He was ten months of age, and had had a great number of convulsions, which had been considered epileptic. The father of the patient had had epileptic convulsions when a child, but had been cured. No cause could be found for the convulsions in our patient except an adherent prepuce. Circumcision had been performed by another physician, but the convulsions continued. When I was called in, his condition was such that he could be controlled only by the free administration of chloroform. He was put on bromids, and Dr. More subsequently prescribed a preparation of passiflora. He gradually improved, and is now strong and healthy, and has not had convulsions for some months.

CASE III.—This patient, aged two years and one month, was strong and healthy, and of good healthy parentage, there not being a trace of neurotic history in either parent. He had one severe convulsion last summer, which was attributed to an overloading of the stomach and bowels. On January 11, 1897, he was taken with a severe convulsion, which lasted upward of three-quarters of an hour. I put him on large doses of bromids, at once. The same evening his temperature rose to 103° F., and it was only by the constant use of chloroform for a considerable period of time that he was kept from going into other convulsions. I gave him two grains of acetanilid and tincture of aconite in drop doses, every hour, to reduce his temperature, but, in spite of this treatment, his temperature steadily rose to 105° F. I then put him in a wet pack, which speedily reduced his temperature a couple of degrees. It began to rise again rapidly, however, and he was extremely restless and nervous. I now put him in a tub of water at a temperature of about 90° F., gradually reducing the bath to 70° F., by the addition of cold water. I left him in the bath until he began to shiver, and goose-flesh was well developed all over his body. He was then taken out, rubbed dry, and rolled up in flannel blankets. His temperature was reduced to 101° F., and he had a sound, refreshing sleep. The next day he was much quieter and free from nervousness, but toward night he became very restless again, and his temperature rose steadily, but not to such a high point as before. The bromids and aconite controlled the condition sufficiently, and it was not necessary to resort to the cold bath. Next day he began to grow worse again, and I examined his penis to see if I could find any source of irritation there. The prepuce was red and angry-looking, and on inserting a probe I found adhesions. I advised circumcision as the only means of relieving the reflex source of irritation and stopping the convulsions. This was readily acceded to by the parents; so I operated at once. The inner surface of the prepuce was universally adherent to the glans penis, and had to be dissected off, bit by bit. The wound healed nicely, and the patient began to improve rapidly and to gain flesh. He has had no return of anything approaching convulsions since.

## MEDICAL PROGRESS.

**The Causes of Cancer of the Uterus and Its Best Treatment.**—In the *Archiv. de Gyn.*, Vol. liii., p. 47, 1897,

BACKER reports his investigations of the 705 cases of carcinoma of the uterus treated in the University Clinic at Budapest from 1882 to 1895. From the study of this extensive material he attempts to answer three questions: (1) "Is the cause of carcinoma of the uterus of such a nature that one can speak of prophylactic treatment?" (2) "What are its initial symptoms?" (3) "Which is the best operation, and what results may be expected?"

From the most careful study of the cases, with reference to their age, marriage, number of children, etc., the author concludes, in answer to the first question, that as yet there is no known definite cause of carcinoma. There is no ground to believe it to be due to a micro-organism.

The clinical cause which, in a certain way, prepares the tissues for carcinoma of the uterus is endometritis, whose beginning, in most cases, dates from confinement. This statement rests upon certain facts shown by his statistics, as follows:

(a) Carcinomatous patients have borne more children than non-carcinomatous patients, but the carcinomatous trouble, in most cases, occurs not immediately after birth, but after a lapse of some years.

(b) Not every chronic endometritis favors the development of carcinoma, but an endometritis of a particular type, namely, a puerperal type. The proof of this lies in the relative freedom from carcinoma of sterile women and those women who suffer from gonorrheal endometritis.

(c) In almost every case of uterine carcinoma there is a chronic catarrh.

(d) The disease occurs much oftener in married women and widows than in single women.

(e) Carcinoma of the uterus occurs more frequently among the poor than among the rich, and the former are much more apt to allow a leucorrhea to run on untreated.

(f) This opinion of the predisposition of inflammatory processes is recognized in relation to carcinoma elsewhere in the body; for example, in the breast, stomach, etc.

In answer to the second question, Bäckér calls attention to two symptoms, the importance of which, in the early diagnosis of carcinoma uteri, has been somewhat overlooked. One of these is the occurrence, very early in the disease, of disturbances of the bladder, consisting usually of frequency and urgency of micturition.

The other symptom has reference to the consistence of carcinomatous tissue. This is hard, but brittle, while chronic endometritis produces a tissue which is hard and tough. If the carcinoma, therefore, begins in the vaginal portion of the uterus, a tenaculum easily tears out of it, which it will not do out of a chronically inflamed cervix. Carcinomatous tissue is easily curettable, while the tissue of chronic inflammation is more resistant.

With reference to the operation presenting the best prognosis, Bäckér declares himself heartily in favor of vaginal hysterectomy. He admits that the high amputation advocated by Schroeder has a slightly smaller mortality—an advantage which is completely over-balanced

by the fact that "a recurrence is more likely to follow this operation than that of total extirpation of the uterus. The author expresses himself as strongly against any radical operation in cases where the disease has progressed beyond the uterus itself.

## THERAPEUTIC NOTES.

**A Gargle for Follicular Tonsillitis.**—LEVY (*Journ. de Méd. de Paris*, March 14, 1897) recommends the following as a gargle for tonsillitis:

℞	Beechwood creasote	.	.	.	gtt. viii.
	Tincture of myrrh	}	aa.	.	oz. ij.
	Glycerin			.	oz. iv.
	Water	.	.	.	

**A Remedy for Excessive Perspiration.**—In cases of excessive perspiration KRAHN (*Therapeut. Monatsch.*, March, 1897) recommends the use of the tincture of salvia, twenty drops in the morning and from twenty to forty drops in the evening. It must be taken continuously for several weeks in order to obtain a permanent cure. Unfortunately this old, harmless, and cheap remedy, like many others of its class, is unknown to the present generation of physicians.

**Holocain; a New Anesthetic.**—GUTMANN (*Deutsche Med. Wochen.*, March 11, 1897) describes the advantages and disadvantages of a new local anesthetic known as holocain, a drug which is soluble to the extent of 2.5 per cent. A solution of the hydrochlorate of a strength of one per cent. is bitter, of neutral reaction, and is unchanged by boiling. Three or four drops of this solution produced anesthesia in the eye of a rabbit in from one-half to two minutes, which lasted about ten minutes. Its action in the human eye is similar. Its advantages over cocain are that it more quickly produces anesthesia, and that while dilatation of the pupil often continues for twenty-four hours after the use of cocain, holocain has no such action. Unfortunately the subcutaneous injection of this drug is dangerous; and another disadvantage in connection with its use is the fact that it can only be sterilized in glass which does not contain alkali, otherwise numerous fine crystals are precipitated.

**The Treatment of Puritus Ani.**—BROCQ (*Journ. de Méd. de Paris*, March 14, 1897) recommends the following treatment for itching of the anus: The patient is to apply first a soothing ointment of vaselin and oxid of zinc, and then a large quantity of the following powder, which is kept in position by absorbent cotton.

℞	Powdered camphor	.	.	.	2 parts.
	Oxid of zinc	.	.	.	30 parts.
	Subnitrate of bismuth	.	.	.	30 parts.
	Chalk	.	.	.	40 parts.

Frequent baths with borated water or tar soap are advisable, and the introduction at night of a suppository of cocoa butter containing cocain and extract of belladonna is often a useful addition to the treatment.

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SATURDAY, MAY 15, 1897.

## THE SUPERVISION OF PROSTITUTES AND THE CONTROL OF VENEREAL DISEASES.

No question is of more vital importance in the preservation and development of the human race than the control, restraint, and suppression of venereal diseases. It is so involved, however, in moral and social, as well as physiological, problems that it has ever presented most formidable obstacles to its solution. But as the chemical rays of the all-seeing sun are the best purifiers of an infected and polluted atmosphere, so is the daylight of intelligence the best clarifier of the noisome and reeking atmosphere of the social and physiological problem under discussion. Just now the British Government is interesting itself in the best method of controlling venereal diseases among the British troops in India, and much is to be learned from the information thus presented and its bearing upon the general question. According to the report of the Departmental Committee of the India Office recently submitted, there has been an alarming increase in the number of soldiers affected with venereal diseases, particularly syphilis. This subject has been the cause of a great amount of bitter discussion lately in both the med-

ical and lay press of England, and in order to properly understand it, it is necessary to review the events of the past ten years.

A cantonment is a camp area within which troops are quartered, and which is under the special police and magisterial control of an officer commonly called the "bazaar master." He exercises certain summary powers over the residents of the cantonment, including the bazaar where the natives reside who minister to the wants of the military and their camp followers.

The so-called Indian Contagious Diseases Acts granted the bazaar master control over the prostitutes residing in the cantonment. They were regularly inspected, were forbidden to practise their profession except in certain recognized houses, and if found to be suffering from any communicable venereal trouble, were cared for in the hospitals provided. On the other hand the soldiers were forbidden to have intercourse with any, unlicensed women, and if they were found suffering from gonorrhea or syphilis, an investigation was made to discover its origin. The soldier of course was treated and if it was found that he had contracted the disease "out of bounds" there was punishment as well as medicine awaiting him.

The opponents of these regulations based their objections to them chiefly on the grounds that the Government was encouraging immorality by supplying the men with prostitutes; and so much popular feeling along this line developed that in 1888 by a vote in the House of Commons the government of India was denied power to frame police or sanitary regulations regarding venereal diseases in cantonment areas.

Since that time matters have not improved, and during the last few years there has been an alarming increase in the number of men incapacitated on account of these maladies. The Army Medical Report for 1895 in reference to this subject stated that there were constantly sick from all venereal diseases taken together, more than 3000 out of the 70,000 British troops in India; while the indirect effects in the way of broken-down health, and dissemination of disease throughout England by returning soldiers was incalculable.

Last November the India Office appointed a departmental committee to investigate the whole sub-

ject; and the report of this committee, made public March 20th, arraigns in the most scathing terms the present policy of the government.

"The present condition of the army in India, yearly sending home thousands of men infected with constitutional taint, is a great and growing source of danger to the whole community. The influence it is liable to exert upon the health of the home population is one of the gravest aspects of the whole question. . . . Among 5882 men detailed for field service with the Chitral Relief Force, 462, or nearly eight per cent., had to be rejected, owing to disease; 279 more, or an additional four and a half per cent., had to be transferred from the field hospitals to the base. According to this ratio, 8800 men, out of a total force of 71,031 British soldiers in India, would have to be put down as useless.

"It is known that among the majority of European armies special regulations are enforced in combating venereal disease. The British army in India is an exception. The ratio per 1000 strength of men incapacitated in the German army is 27.3; in the Russian, 43; in the French, 43.8. What is the ratio in our own army? It is 203.7 at home and 438.1 in India. Comment is surely superfluous. This deplorable state of things does not appear to be attributable to general causes, but to one cause alone, namely, the sexual act. Drunkenness and crime have greatly diminished. More care than ever is taken of soldiers in the way of recreation, cleanliness, and the encouragement of athletic and manly sports. The hard fact remains that among a body of men, mostly very young, and nearly all obliged by the conditions of the service to remain unmarried, only a few can resist such temptations as are offered to them, with the results that have been hinted at in the preceding paragraphs."

In Netley Hospital, to which the soldiers are assigned upon their return from India, the report says that "out of 263 cases, 196, or seventy-four per cent., had a history of syphilis. Never have so many or so bad cases of this disease been sent home as during the last five years. . . . Not a few are time-expired, but cannot be discharged in their present condition, incapacitated as they are to earn their livelihood, and in a condition so repulsive that they could not mix with their fellow-men. . . . They remain at Netley, in increasing numbers, which, as matters now are, seem likely to continue to increase."

Even in the light of these terrible disclosures, opinion is divided as to the course the Government ought to pursue, and there will evidently be bitter opposition on the part of medical men as well as others to the reestablishment of the Contagious Diseases Act either in their previous or any other form.

Aside from the sentimental objection already referred to, it is claimed that in this case protection does not protect. Not only in the English army during the period when there was official regulation was there far too much venereal disease, but at the present time in France and Germany, where police license and inspection is more thorough, the number of civilians and military who contract disease is sufficiently great to give the opponents of the Act a very good supply of ammunition. They quote a number of recognized authorities to prove the unreliability of the most thorough inspection of prostitutes. Potten for instance says that, at least five times out of six, soldiers contract syphilis from registered and periodically inspected women; and Diday records a case in which the son of an eminent statesman contracted the disease from a highly placed courtesan whom he had pronounced free from every taint after a most thorough examination made by himself at her request.

The trouble with this testimony, however, as appears at first glance, is that it offers no comparison with what would have taken place without any inspection. It is as if a man built a roof of leaky boards, and his neighbor urged him to remove it on the ground that it allowed much water to come through, forgetting that for every pint which finds its way between the chinks some gallons are tumbled off onto the ground. Of course, if the neighbor had an absolutely water-tight roof to offer, that would be another story. In the present instance, the opponents of the Contagious Diseases Act have apparently nothing better to advocate. What seems like a way out of the difficulty, and some suggestions which are applicable to the general question will be given in a later editorial.

#### THE FINAL ANTITOXIN REPORT.

In another column of this issue may be found the supplementary and final report of the committee appointed by the American Pediatric Association to investigate the efficiency of diphtheria antitoxin. The conclusions deduced by this committee have been sanctioned by the Association and are now given to the world with the full weight of its approval and authority. But that the most critical skeptic shall be disarmed, the methods of this investigation have also been presented in detail.

The solution of two crucial questions has been undertaken. Upon the answers given the claims of antitoxin have been allowed to stand or fall: "(1) What percentage of cases of laryngeal diphtheria recover without operation under antitoxin treatment? (2) What percentage of cases subjected to operation recover?"

It is proven by the committee's report that in eighty-two per cent. of non-operated cases the patients recovered under the serum treatment, the average percentage of recoveries in the pre-antitoxin period being ten per cent. To apply even a severer test, let us take the children under two years of age, in which class of patients laryngeal diphtheria is confessedly so dangerous that a mortality approximating one hundred per cent. was formerly regarded as not unusual. Under antitoxin in 356 of these cases only 102 patients were lost, a mortality of less than thirty per cent. With no other evidence than is contained in this statement the most stubborn objector must be convinced.

The investigation of operated cases is equally gratifying; nearly seventy-three per cent. recovered.

A most encouraging feature developed by the committee, but not mentioned in its report, is the fact that 1700 cases of laryngeal croup were treated with the remedy during eleven months. This goes to show how strong a hold serumtherapy has taken upon the minds of earnest physicians throughout America.

A very practical suggestion is offered by the committee when a sufficiently potent dose is recommended. As with all untried remedies, the early use of diphtheria antitoxin was very properly tempered by a spirit of caution, but since a purer and more concentrated product is now furnished, experience would suggest a larger and more efficient dosage.

The highest commendation should be accorded the American Pediatric Association for so persistently adding line upon line and precept upon precept until a verdict of *proved* has been established beyond peradventure. The final word has been spoken—a fact is before us.

## ECHOES AND NEWS.

**The American Climatological Association.**—The following officers have been elected for 1898: President, Dr. E. O. Otis, Boston; Vice-presidents, Dr. Beverly Robinson New York, and Dr. C. F. McGahan, Aiken, S. C.; secretary and treasurer, Dr. Guy Hinsdale, Philadelphia. The

next meeting will be held in the White Mountains, New Hampshire, in 1898.

**The New Hampshire State Medical Society.**—This Society will hold its one hundred and sixth annual meeting at Concord, May 24 and 25, 1897.

**Wearing of Corsets Forbidden.**—A fact worth recording is that the female employees of many German factories are forbidden to wear corsets during working hours.

**The Prevalence of Diabetes.**—The statistics of this disease show that it is steadily and rapidly increasing in all the great cities of Europe. This is another of the penalties of advanced civilization.

**California State Medical Association.**—At the meeting of this flourishing organization, at San Francisco, on April 22d, Dr. C. L. Bard of Ventura was unanimously elected president for the ensuing year.

**The American Medical Editors Association.**—This Association will hold its next regular annual meeting at the Aldine Hotel, Philadelphia, June 1st. The dinner will occur at the same place in the evening of the same day.

**British Charity in Jubilee Year.**—The Prince of Wales' hospital fund was confidently expected to reach the magnificent total of £3,000,000, which would just cover, in the income it would produce, the annual deficit of the London hospitals. No figures have yet been printed, but there is no longer any talk of millions. There is doubt if £250,000 will be raised.

**Membership in the American Medical Association.**—There still seems to be some misunderstanding as to the proper means of becoming a member of the American Medical Association. The rules of the American Medical Association show that each person who expects recognition should come armed with a certificate of membership in his State or County society. No person presenting himself for registration will be accepted if he has not such a certificate.

**The Wisdom of Government Officials.**—The *Press and Circular* records that Mr. Hankin recently left Bombay, the seat of the plague—for Agra, taking with him all his bacteriologic specimens of the disease, and a certain number of mice for experimental purposes. No sooner was his arrival announced than a government official was sent to him with orders to seize all his specimens and burn them, and everything was ruthlessly cremated. How wise are the ways of some officials!

**Alleged Drug Counterfeiters Detected.**—It is reported from Chicago that the grand jury has indicted three men, one of them a physician of that city, on the charge of conspiracy, counterfeiting labels, and obtaining money under false pretenses in connection with the manufacture and sale of bogus drugs. The remedy counterfeited is made in Paris. The bottles were obtained through one Dumont. Over twenty Chicago druggists are implicated, and sensational developments are expected.

**Notes Concerning the British Medical Association.**—Dr. Charles Richet has been nominated as the official representative of the Faculty of Medicine of Paris at the Montreal meeting.—During the past week most of the American invitations have been sent out and received.—The citizens of Montreal are planning most liberal entertainment for the Association and its guests.—The New England Traffic Association offers to guests of the Association the usual reduction in railroad fares upon presentation of certificates.

**A May Vaccination Bee.**—The Italian mothers believe that May is the best time to have their children vaccinated. Accordingly, there were 1500 mothers carrying babies in their arms, and about a thousand children clinging to their mother's skirts assembled at the office of the New York Board of Health one day last week. Five doctors were busy all day in the free vaccinating bureau, but they succeeded in vaccinating only 620 babies. During the week the staff vaccinated over three thousand children.

**Mr. Lawson Tait III.**—It is reported that Mr. Tait, while operating upon a patient April 12th, was seized with violent pain in the neck of the bladder, followed by dribbling of urine. The symptoms were found to be due to an impacted calculus. A perineal incision was made and the calculus reached and successfully removed. The operation was performed by Mr. Gilbert Barling, assisted by Mr. Christopher Martin. With the exception of some depression, due to the severe and protracted pain, Mr. Tait is making a speedy recovery.

**The Medical College of Alabama.**—The annual commencement of the Medical College of Alabama took place at Mobile on the evening of April 9th, and was of particular interest from the fact that the union between this institution and the University of Alabama was then formally ratified. The university has had a long and honorable career, having been founded in 1827, and the college, which was organized in 1860, numbers many of the most eminent practitioners of the South among its alumni. This union of forces will redound to the advantage and usefulness of both, and is another indication of the general trend of effort in different portions of the country to concentrate means and abilities toward the attainment of higher education.

**Infection from Public Baths.**—Professor Baginsky has been investigating the condition of the water in some of the public baths of Berlin, and has found a very large increase in the number of bacteria after a considerable number of people had bathed. After twelve hours, when two hundred persons had used the bath, the water contained 90,000 germs per cubic centimeter; while, after twenty-four hours, when 549 persons had bathed, the germs amounted to 270,000 per cubic centimeter. The microbes found showed the filthy nature of the pollution, and were suggestive of the danger of acquiring typhoid fever by the swimmers swallowing any of the water. This emphasizes the superiority of the spray or douch bath for a working-class community.

**The Medical Sentinel, Dr. Kiernan, and the Virginia Medical Semi-Monthly.**—*The Virginia Medical Semi-Monthly*, in a recent issue gives the MEDICAL NEWS credit for having said that Dr. J. B. Kiernan, of Chicago, had recently severed his editorial connection with the *Medical Sentinel*. The *Medical Sentinel*, and there is no other medical journal by this name in the world, is published at Portland, Ore., and is now in its fifth year. As the editor, Dr. Henry W. Coe is also its owner, it is safe to say that there has been no conflict between editorial and other departments, relative to the policy of that journal. Dr. Kiernan has never had any connection, editorial or otherwise, with the *Medical Sentinel*, and Editor Edwards has gotten things mixed by quoting the MEDICAL NEWS in the manner he did.

**Professor Charles F. Chandler Resigns.**—Professor Chandler has resigned his positions as Professor of Chemistry in the College of Physicians and Surgeons of New York and as Dean of the School of Mines of Columbia University. His reason for giving up the two positions is that he may be able to devote his whole time to the professorship of chemistry at Columbia. At the close of Professor Chandler's farewell lecture to the students of chemistry at the College of Physicians and Surgeons, May 7th, a testimonial of the esteem in which he is held by the students was given him in the shape of a loving-cup, subscribed for by those who have attended his lectures. The professor's desk was covered with roses, and the platform had also been ornamented with flags and other decorations.

**Bulletin of the Iowa State Board of Health.**—The Iowa Board of Health deals out advice on health topics in a truly paternal manner. "Spring is here," the board says in a recent bulletin, "and soon the flies will be on hand and demand house-room and feed." They should be given neither. They come from filthy places with their legs covered with morbid matter "and crawl over the bread and sugar and fruit and cake and pie," depositing thereon bacteria of the most poisonous kind. Therefore, in the words of the board, "decency and a due respect for health suggest that money spent for screens, for doors and windows, and for sticky fly-paper is money well spent." Another spring suggestion by the board is the eating of lemons, for therapeutic, esthetic, and sanitary reasons. On this point the board makes an ingenious appeal to the women. "Scarcely anything is better for the complexion," it says, "than a good healthy action of the liver and stomach." Summed up, the advice of the board to women is to discard veils and buy lemons.—*New York Times*.

**Cooking Schools for Marine Cooks.**—The suffering caused by scurvy among the crew of the ship T. F. Oakes, which recently arrived in this port, calls attention to the establishment in England of cookery schools, devoted exclusively to the training of marine cooks. A. Quinlan, instructor of the Seaman Cookery School of Liverpool, refers, in a recent communication to the *Epitome*, to the fact that on ships provided with cer-

tificated graduates from the institution named no cases of scurvy ever occur. The pupils are taught how to make fresh food out of the saltiest of meats, and to concoct appetizing dishes from all sorts of ship's stores. Mr. Quinlan instances the case of the ship Holt's Hill, which carried one of his certificated cooks. This vessel made a voyage around the world, and not a single case of illness occurred among the crew. Usually on English ships that make long voyages desertions are many on account of insufficient and improperly prepared food; but on the Holt's Hill the original crew remained from the beginning to the end of the voyage. This is looked upon as a phenomenal record.

**Annual Commencement of the Medical Department of the New York University.**—At the fifty-sixth annual commencement of the Medical Department of the New York University, held in Carnegie Hall, May 4th, Chancellor MacCracken made an announcement about the combined University Bellevue Hospital School of Medicine, which, he said, would be open October 2d. The faculty will be appointed next week or the week after. The new handbook will be published about June 1st, and will contain full information about new buildings and new appliances for the reorganized school. The Mott medals were awarded as follows: Gold medal, C. F. S. Whitney; silver, Ralph J. Hess; bronze, Aaron Denenholz. The first money prize of \$200 was won by John Howland; the second, \$100, by E. N. Bowen; the third, \$50, by Isaac Zarch. The honor men were named in the following order: John Howland, E. N. Bowen, Isaac Zarch, S. T. Quinn and J. J. Moorehead. The prizes in the competitive examinations for hospital appointments were awarded to B. L. Wilson, J. J. Wilson, S. D. Dice, A. H. Mandell, Jr., P. B. Davenport and T. E. Berry. Other hospital appointments were awarded to T. B. Barrington, Jr., L. V. Waldron, Frederick Rustin, John Howland, F. J. Tooker, A. S. Englehart, W. M. Stone, W. G. Schoonmaker, D. L. Morrison, Stewart Lewis, E. N. Bowen, M. I. Blank, L. Harris, W. M. Spitzer, H. H. Wilson, and William Menger.

## CORRESPONDENCE.

### STERCORIN VERSUS KOPROSTERIN.

To the Editor of THE MEDICAL NEWS.

DEAR SIR: In the NEWS for May 1st, R. H. Chittenden, Ph.D., of New Haven, Professor of Physiological Chemistry in Yale University, in an article on "The Chemistry of Gall-Stones, with Special Reference to their Mode of Origin," read before the New York Academy of Medicine, April 15, 1897, says:

"As just stated, cholesterol is not readily decomposed, but in the case of man, according to the recent experiments of Bondzynski and Humnicki (*Über das Schicksal des Cholesterins in thierischen Organismus, Zeitschr. f. physiol. Chem.* Band 22, p. 396), a portion of the substance undergoes modification in the intestine, appearing in the feces as koprosterin, a body closely related to

cholesterin, and apparently formed from it by the addition of hydrogen."

In *The American Journal of the Medical Sciences* for October, 1862, is an article by me entitled "Experimental Researches into a New Excretory Function of the Liver, Consisting in the Removal of Cholesterin from the Blood, and its Discharge from the Body in the form of Stercorin." The stercorin which I discovered in the feces in 1862 is identical with the "koprosterin" recently described. My methods for the extraction of stercorin from the human feces are practically identical with the methods recently employed in the extraction of "koprosterin." I proved that stercorin is derived from the cholesterol of the bile. Within the last few months I have repeated my observations of 1862, and have carried on side by side with them the manipulations employed by Bondzynski and Humnicki, with exactly the same results. I have compared specimens of "koprosterin" obtained by the recent methods with specimens of stercorin obtained in 1862, and have found the two substances identical.

While it is a matter of some surprise that Bondzynski and Humnicki should be ignorant of the existence of stercorin, it is a matter of greater surprise that an American physiological chemist, so prompt to accept observations made in Germany, should ignore stercorin, a name to be found in English, French, and German literature since 1862.

Yours truly,

AUSTIN FLINT, M.D.

60 EAST 34TH ST., NEW YORK,  
May 1, 1897.

### OUR PHILADELPHIA LETTER.

[From our Special Correspondent.]

THE INCREASE OF MALARIA—MEDICAL INSPECTORS FOR THE PUBLIC SCHOOLS—COMMENCEMENT AT THE JEFFERSON AND MEDICO-CHIRURGICAL COLLEGES—AMERICAN PUBLIC HEALTH ASSOCIATION—PHILADELPHIA COUNTY MEDICAL SOCIETY—THE SOCIAL SIDE OF THE AMERICAN MEDICAL ASSOCIATION'S MEETING.

PHILADELPHIA, May 8, 1897.

THE increasing prevalence of malarial fever in Philadelphia during the last year or two has occasioned no little comment among practitioners, as of recent years instances of paludism in this city have been more often the exception than the rule. The records of most of the large hospitals also bear witness to the growing frequency of this disease, and the fact that the increase in malaria has not been among those who have recently arrived here from malarious districts, but in natives of the city, argues against the importation of the disease by immigration, and demonstrates its local origin.

The sanitary condition of the Philadelphia public schools has, for a long time, been a subject of great dissatisfaction to those interested in the health of the community, and the deplorably unhealthy state of many of the school buildings, fully set forth in a recent official report on the subject, has actuated a movement led by Dr. W. W. Keen, to have the Board of Health insist on a daily medical inspection of the school children of this city,

similar to that now in effect in New York and elsewhere. To get at the root of the evil by extensive reconstruction of many of the school buildings is, of course, too much to ask at present, so that Dr. Keen's suggestion, which will at least limit the spread of contagious diseases, should be made an important step forward in our municipal hygiene.

The commencement exercises of the Class of '97 of the Jefferson Medical College will be held on May 14th. Professor E. E. Montgomery will deliver the valedictory address, and there is also to be an oration to the class by Rev. Francis L. Patton, the president of Princeton University.

The graduating exercises of the present year's class at the Medico-Chirurgical College will take place on May 18th.

From a perusal of the preliminary announcement of the program of the meeting of the American Public Health Association to be held in this city on October 26th, 27th, 28th and 29th, it is evident that the coming meeting will prove one of the most important sessions ever held by the Association. Among the large number of topics listed for discussion the more prominent are those relating to the cause and prevention of infant mortality, to the pollution of water supplies, and to the subject of public health legislation, while an important consideration of the questions of the nomenclature of disease and forms of statistics is to be a leading feature of the meeting. Dr. Benjamin Lee, No. 1532 Pine street, Philadelphia, is the chairman of the local committee on arrangements.

At the stated meeting of the Philadelphia County Medical Society, held on April 28th, Dr. Orville Horwitz presented "An Inquiry into the Cause for the High Mortality Resulting from Suprapubic Cystotomy," in which he reviewed the statistics relating to this operative procedure, and showed that it was attended by a mortality which varied from thirteen to thirty-three per cent. Dr. Horwitz then quoted seventy cases, ranging in age from three to seventy-five years, upon which he had performed this operation, with but one death resulting, and dwelt particularly upon the proper preparation of the patient, and upon a perfect technic as important factors of a lower death rate. From his experience, he concluded that the high mortality in the hands of other operators was due, among other causes, to extensive and unnecessary dissection of the prevesical tissues; to injury to the peritoneum by the use of the knife after dividing the sheath of the recti muscles; to loss of time in exposing the bladder, after anesthesia had been effected, and a want of knowledge after exposure of the bladder as to whether the viscus was free from the peritoneal fold; and to over-distention of the bladder and of the rectal bag.

Dr. A. Graham Reed read a paper on "The Hot-Air Treatment for Rheumatism and Gout," and drew inferences concerning this means of therapeutics agreeing with the opinions already expressed before the Society by Drs. H. A. Hare and J. C. Wilson, the latter of whom, it will be remembered, long since introduced the treatment in this city, and has successfully and widely employed it in a large number of cases.

Aside from the scientific interests which attach to next month's meeting in this city of the American Medical Association, the visiting members will find that their time will be largely taken up with the numerous engagements of a social nature, which have been planned for their entertainment.

On the first day of the meeting, June 1st, they will be entertained at lunches given by the Philadelphia County Medical Society at the Hotel Walton; by the Laryngological Section, at the Howard Hospital; and by the trustees and faculty of the Philadelphia Polyclinic, at their hospital building. In the evening dinners will be given at the Hotel Walton by the Sections on Surgery and Anatomy, Diseases of Children, Neurology and Medical Jurisprudence, Materia Medica and Pharmacy, Dermatology and Syphilography, Obstetrics and Diseases of Women, and Ophthalmology, Laryngology, and Otology; and at the Aldine Hotel by the Section on Practice of Medicine.

On the second day, June 2d, there are to be lunches by the University of Pennsylvania, at Houston Hall, and by the publishers, The J. B. Lippincott Company, at the Union League Club. In the evening receptions will be given by the Jefferson Medical College, at the Academy of the Fine Arts; by the University of Pennsylvania, at the Union League Club; by the Medico-Chirurgical College, at the hospital of this institution; by the Women's Medical College, at their hospital; and by Dr. J. V. Shoemaker, at his residence.

On the third day of the session, June 3d, the following lunches will be given: By Dr. W. W. Keen, to the Surgical Section, at the Hotel Walton; by Dr. J. H. Musser, to the Section on Practice of Medicine, at Houston Hall; and by Dr. L. Webster Fox, to the Section on Ophthalmology, at the Hotel Bellevue. In the evening a large theatre party will be tendered the members of the Association by the medical publishing firm of Lea Brothers & Company.

On the fourth day, June 4th, the Philadelphia Medical Club will entertain the visitors at luncheon at the Aldine Hotel.

In addition to the above arrangements, a large number of Philadelphia clubs will keep open house for the visiting members, and the physicians of Atlantic City are making elaborate plans for the entertainment of those who are inclined to take the hour's ride to that seaside metropolis.

#### TRANSACTIONS OF FOREIGN SOCIETIES.

##### Vienna.

AN ENDEMIC HICCUGH OCCURRING IN A YOUNG LADIES' SEMINARY — RESECTION OF THE GALL-BLADDER AND A PORTION OF THE LIVER FOR CARCINOMA—THE ANCIENT AND MODERN TREATMENT OF GOUT—REMARKABLE CASE OF HEMATEMESIS IN A HYSTERICAL WOMAN.

BERDACH reported to the Imperio-Royal Society of Physicians, at the session held March 12th, *an endemic hiccup occurring in a young ladies' seminary*. Sixteen out of the thirty-five scholars were attacked in one week.

The neurosis was undoubtedly of a hysterical nature. The first child attacked had well-marked symptoms of hysteria, and the second case was ushered in by a hysterio-epileptic attack. According to Charcot, such attacks occur most frequently in anemic young girls, and are very apt to recur. The hiccuph cannot be stopped voluntarily, but it ceases entirely in sleep. The children were at once removed from school, and seven recovered almost immediately. The prognosis in the other cases was thought to be good.

ULLMANN presented a patient from whom, six months previously, he had removed the gall-bladder and a portion of the liver substance for carcinoma. Although the resection was made with a Paquelin cautery the hemorrhage was troublesome, and was only stopped by suturing together the sides of the wound in the liver. This is the fourth case of carcinoma of the liver which has been treated surgically.

At the session of March 26th, LORENZ showed a number of patients to illustrate his treatment of bony ankylosis of the hip-joint. If the these cases are unilateral and the femur is ankylosed in a favorable position the patients can do very well without an operation. In those cases in which ankylosis has occurred with the limb in a bad position, or in which both sides are affected, Lorenz has performed with marked success linear osteotomy at the plane of ankylosis, following the operation with gymnastic treatment. In one young woman, aged twenty-two, absolute ankylosis had existed in both hip-joints. Locomotion was due before the operation only to a sort of tripping from the extreme points of the toes, made possible by the slight degree of motion in the symphysis, and the sacro-iliac synchondroses. There had also been numerous attacks of osteomyelitis in various parts of the body. When the region of the joint was exposed it was found that its place had been taken, apparently, by a huge bony tumor, so that a linear osteotomy alone would not suffice. Great masses of newly formed bone were removed and the surfaces of the femur and pelvis were separated. The wound healed promptly and gymnastic exercises were begun in six weeks. When presented, the patient possessed the ability to flex and extend the thigh through an arc of thirty degrees. Abduction was possible to fifteen degrees. In ordinary cases of linear osteotomy the patient should remain in bed not more than eight days, and should begin at once to go about with an apparatus devised for coxitis.

At the session of the College of Medicine, held March 15th, STERNBERG discussed the ancient and modern treatment of gout. As far back as Hippocrates moderation in quality and quantity of food was strongly urged. Upon this point, and this point alone, are clinicians to-day agreed. The treatment comprises four subjects, viz.: diet, alkalies, specific remedies, and mechanical therapeutics. Upon every one of these points opinions vary widely. Pfeifer recommends a purely meat diet. The French authors object to soup because meat extracts are poisonous to the kidneys. A milk diet is suitable in only a small number of cases, as many patients with gout bear it very badly. Some physicians forbid their patients to eat sour articles of food,

while others recommend fruit cures (strawberries, cherries, etc.). All agree that alcohol is injurious.

Of the alkalies, lithia is not very soluble, and, moreover, it upsets the digestion and accomplishes little good. Von Noorden recently advised the use of calcium carbonate. The only objection to its use is the possible formation of intestinal concretions, and this can be overcome by the use of laxatives. The phosphoric acid which is abstracted from the urine by the calcium is eliminated in the intestine, and the sodium acid phosphate in the urine is increased by just that amount which favors the solution of uric acid. Instead of the already forgotten ammonium compounds, modern therapy has found similar preparations with amin bases; for example, urotropin and piperazin. All of these substances are irritating to the stomach.

In the discussion which followed the reading of this paper it was evident that the members of the society expect more benefit to follow treatment by baths of various kinds, friction of the skin, and massage, than from any internal remedies.

ZAPPERT presented to the Medical Club, March 10th, a case of juvenile progressive paralysis existing for two years in a girl aged thirteen. The trouble began with difficulty in walking, followed by psychic disturbances. The child suffered besides from hereditary syphilis. It has been recently shown that of forty-one cases of progressive paralysis eighty-seven per cent. were victims of hereditary syphilis.

At the session of March 24th LEDERER related the history of a remarkable case of hematemesis in a hysterical woman, who lost in the course of one month more than thirteen liters (quarts) of blood, five liters being lost in four days without producing unconsciousness. The hemorrhages occurred not only from the stomach, but also in the secretions and excretions, even in the secretions of the breasts. This woman had taken in the six months preceding these hemorrhages two hundred grams (seven ounces) of paraldehyde. It was suggested that this may have been the cause of the bleeding.

As a result of his researches, HERZ concludes that a comparative insufficiency of the ileocecal valve exists when, in the cadaver, it does not resist a pressure of at least twenty centimeters of water (eight inches). If the valve is well formed it will resist enough pressure to burst the colon. Incompetent valves are frequent in alcoholic subjects and those who suffer from diseases of the heart or chronic diseases of the large intestine. Upon the living, insufficiency of the valve can be demonstrated by pressing the edge of the left hand against the ascending colon, and squeezing the cecum with the right. If insufficiency exists, gas and fluids will be forced back into the ileum with a gurgle, and the percussion note over the cecum and ileum will be changed.

Constipation may be the result as well as the cause of the affection, because the large intestine empties itself more like the bladder than by peristaltic action, and if it communicates freely with the small intestine this action is greatly interfered with. Massage of the large intestine is more efficacious than purgatives and disinfectants, because

it attacks the source of the trouble, while these are only palliative.

SINGER was inclined to doubt the possibility of making a diagnosis of incompetency of the ileocecal valve by palpation combined with percussion. He suggested insufflation of air as a better means of making the diagnosis.

## SOCIETY PROCEEDINGS.

### CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

*Fourth Triennial Session, Held at Washington, D. C., May 4, 5, and 6, 1897.*

[Specially reported for the MEDICAL NEWS.]

#### GENERAL SESSION.

(Continued from page 611.)

#### THIRD DAY—MAY 6TH.

THE meeting was held under the direction of the American Orthopedic Association. The subject for discussion was

#### DEFORMITIES OF THE HIP-JOINT, ESPECIALLY CONGENITAL DISLOCATIONS.

The first paper was read by DR. E. H. BRADFORD of Boston. He said that it will be satisfactory to the profession at large to learn that an affliction which for centuries has defied all surgical efforts may at last be regarded as curable under the efforts of scientific surgery. Without taking time to review the history of the subject, he said that the world was greatly indebted to the efforts of Hoffa and Lorenz. An accurate knowledge of the pathologic anatomy, fortunately now well understood, is important. The etiology, however, is not known, although it is clear that true congenital dislocation is an affection of intra-uterine life. It would seem that it is not, like harelip, a defect of development, but, like congenital clubfoot, a malposition of the bones, with resulting changes in the soft parts. The speaker then reviewed, with the aid of diagrams thrown upon a screen, the various theories in regard to the etiology, pathology, diagnosis, and treatment, with results. The following conclusions were presented:

Congenital dislocation of the hip is a dislocation of the head of the femur upward occurring during intra-uterine life. A shallow triangular acetabulum results. A diminution of the angle between the neck and shaft takes place and a twisting of the neck. The capsule is altered by being stretched and thickened; it is first dilated in its upper portion, stretched across the acetabulum in the lower portion, and constricted at the rim of the acetabulum. The most important obstacle to reduction lies in the attachment of the capsule at one end to the ilium above and around the acetabulum and to the anterior surface of the femur, especially to the lesser trochanter. The shortened pelvic femoral muscles also offer a resistance to the reduction and with the contracted capsule will prevent reduction or cause relapse. Obstacles to the reduction also lie in the shape of the head and in the shallowness of the acetabulum. Traction in an outward

direction cannot effect a cure. Traction in a strong abduction with downward pressure upon the head may bring about reduction. In children over two and under five—in some instances between five and seven—under an anesthetic, forcible reduction can be employed. This can be done only if the head of the femur is forced through the capsular neck into the acetabulum and only after the capsular attachments adducting and flexing the limb are thoroughly stretched. Successful reduction is always accompanied by an audible movement of the head of the femur into the capsule, and bandages and fixation apparatus are to be used to prevent relapse until the contracted tissues are sufficiently long and the pelvic trochanter muscles have regained their power to a sufficient extent that a recurrence of dislocation is impossible. In patients older than seven and under fifteen, and in some cases between five and seven, an open incision is necessary for reduction of the dislocation. Subcutaneous incision is useless. The line of incision following the outer edge of the tensor vaginae femoris is preferable. Inability to reduce the head is due to capsular attachments from the acetabulum and ilium to the femur which have not yet been divided or stretched. In adolescents or adults, where extension of altogether new bone takes place, operative reduction has not been successful. The use of corsets and traction splints may improve attitude, but cannot cure.

#### DISCUSSION.

DR. V. P. GIBNEY of New York in opening the discussion, expressed embarrassment at speaking on this subject in the presence of Dr. Bradford, who had given so lucid a demonstration. He desired, however, to say something about the ultimate results in the cases operated upon and those not operated upon. He had seen six or eight of these cases a year during the last decade or more, but only within the past six or seven years had he made any attempt to carry out methodical treatment. When the method of Hoffa was first introduced, he began using the appliances, and he thought he obtained some good results, but he had not had enough cases to warrant too positive statements in regard to the method. If the operation is to be undertaken, he thought that the preliminary stretching referred to by Dr. Bradford is very essential. Cases in which he had used it had turned out best. He had encountered less difficulty in getting the head of the bone into the acetabulum in these cases, and they had gotten well without suppuration. This unfortunate accident will occasionally occur. He was sure that even Lorenz, judging from his own reports, had met with suppuration in some cases. This has not led him to adopt another method, however, but he has modified the original one. He claims that by this non-bloody method, if he has not a sufficiently deep acetabulum, by causing the patient to walk on the limb early, the head of the femur will force itself into the acetabulum.

DR. HARRY M. SHERMAN of San Francisco spoke first of what he had himself seen Lorenz do by his operation for reposition. His recollection differed somewhat from what had been presented by the essayist, but he admitted that the difference may have arisen from improve-

ments adopted by Lorenz since he saw him operate. He had thought that the incision was anterior to the line of the tensor vaginae femoris. He stated that after the operation the limb was put up in plaster-of-Paris, in a flexed and strongly abducted position, and kept so for six weeks, portions of the plaster being now and then removed until at the end of six weeks the child was permitted to walk. Another point of importance in the Lorenz method is the fact that this operator never abandons a case, but applies massage and requires the patient to work in his gymnasium at the earliest moment that is safe.

The Congress then passed under the direction of the American Surgical Association, the subject for discussion being

THE CLASSIFICATION OF ACUTE GENERAL PERITONITIS: THE PROGNOSIS AND TREATMENT OF THE DIFFERENT VARIETIES.

The subject of

THE CLASSIFICATION OF ACUTE PERITONITIS

was presented in an exhaustive review of the various forms of the disease, classified according to etiology and pathology, and clinically, by Dr. N. SENN of Chicago. (An abstract of this paper was published in the last issue of the NEWS.)

The subject of

THE PROGNOSIS AND TREATMENT OF THE DIFFERENT VARIETIES OF PERITONITIS

was presented in a paper by DR. ROBERT ABBE of New York, which will appear in the next issue of the NEWS.

DR. ANDREW J. MCCOSH of New York then opened the discussion of the papers. He first expressed regret that Dr. Senn had not given a more practical and less elaborate classification of the disease, but admitted that such a classification was impossible if Dr. Senn was unable to give it. He then asked several questions regarding varieties of the disease which were close in resemblance.

In regard to prognosis, he had little to say, except to agree with Dr. Abbe, that the duration of the disease had much to do with the outcome of the case. Another factor is the varying resisting power of different patients. Age and habits are also important factors. Patients with a diseased liver or disabled kidneys are very susceptible to septic infection. All his patients that recovered were under thirty-five years of age, and he did not recollect a case of a patient over forty-five years old that had recovered. He thought it must be difficult to decide at the time of operation between those cases which need simple cleansing and those which need thorough irrigation. In some of the most virulent cases the evidences of septic infection are but little marked, whereas, in the milder cases, the evidences are sometimes much more decided. He thought it better at the time of operation to consider every case as one of the severest grade of the disease, and to so treat it. Therefore, if the best method of treating the peritoneal cavity is by irrigation, we should adopt that method in preference to swabbing or scrubbing. By the latter process the endothelium must be damaged, its vi-

ality diminished, and its resistance to infection impaired. He believed in complete irrigation. A free incision should be made in these operations, the patient being turned upon the side and the intestines being entirely removed from the cavity. It is also of the greatest importance that the intestinal and peritoneal surfaces be kept hot. The coils of gut are received into the hands of assistants, and covered by towels which have been wrung out in water as hot as can be borne. Glassful after glassful of hot salt solution is poured over and through them at the same time that a large hose from a glass reservoir is pouring the same solution into the cavity. The irrigating fluid should be a sterile, normal, salt solution. It is of importance to let a certain amount of the same fluid remain behind in the peritoneal cavity. It acts as an immediate heart stimulant, and increases intestinal drainage and the passage of septic matter out of the abdominal cavity. The bactericidal power of the peritoneal fluid is increased by it. Of course, the peritoneal cavity should be thoroughly cleansed. It is important to remove as much of the septic material as possible, and to dilute what remains with the sterile fluid.

Another point of importance is in regard to the respective advantages of opium and of catharsis. There is an inclination at present toward the use of opium in full doses, and a tendency to discourage the use of cathartics. The speaker was entirely opposed to this change, however, and believed that treatment by opium was the worst that we could adopt in cases of general septic peritonitis. It is, of course, indicated in cases of idiopathic or local peritonitis, when we wish to confine the inflammation to a small area. He thought that every method should be employed to restore to the intestines their peristaltic action. Everything should be done to favor intestinal drainage, and to prevent distention and thinning of the walls of the gut and stagnation of blood, and to prevent the escape of the colon bacillus out of the intestine. Much difficulty arises here in the inability of the patients to retain cathartics. On this account the speaker had begun to administer various cathartic substances by means of intra-intestinal injections at a high point in the small intestine. He had become so convinced of the great value of this method that he now employs it in all his cases, injecting one to two ounces of a saturated solution of magnesium sulphate into the small intestine by means of a large antitoxin syringe, the puncture being closed by a Lembert suture. He remarked further that his results had been so much superior from this method that he was forced to conclude that the saline injection has had much to do with it.

He then presented statistics of the results which he had obtained by the use of this method. He showed that between the years 1887 and 1895 his mortality had been eighty-six per cent., whereas, since the adoption of the present method in 1896, he had operated upon nine cases, with six recoveries. He believed that the early movement of the bowels was an important factor in the recovery. In some of his successful cases the prognosis had been exceedingly grave, but improvement began almost immediately after the operation, the bowels moved early,

flatus disappeared, and the patient went on to a speedy recovery.

Referring to the application of heat or cold to the external surface of the abdomen, the speaker said that neither was of value, as they cannot affect the temperature of the interior more than about half a degree. Cold is, however, grateful to the patient. Drainage is of great importance. A free incision should be made and the peritoneal cavity thoroughly drained. His preference was for gauze strips running in between the coils of the intestine. The glass tube is sometimes used in addition to the gauze strips, but rubber tubes are now very seldom used. He preferred chloroform as an anesthetic in these cases. In conclusion he insisted strongly upon early operation, thorough cleansing of the peritoneal cavity, and an early restoration of peristalsis.

DR. GEORGE R. FOWLER of Brooklyn, as his contribution to the discussion of the subject, next read a paper on

PERITONITIS CONSIDERED FROM THE CLINICAL  
STANDPOINT (SEE PAGE 627).

DR. J. T. JOHNSTON asked that Dr. McCosh give further particulars in regard to the injection of saturated solution of magnesium sulphate into the small intestine. If it has proved such a valuable means of hastening peristaltic action, he thought it desirable that the method should be fully understood.

DR. MCCOSH replied that he administered the dose during the operation, when the intestine was exposed, and repeated what he had already said in regard to location of puncture, syringe used, and closure of the puncture by Lembert suture.

DR. WILLIAM H. WELCH, Chairman, then remarked that the question as to the existence of a chemic peritonitis is a matter that has not been entirely settled. He agreed with Dr. Senn that we would better regard cases of general peritonitis as due to the action of micro-organisms.

There are certain points in regard to the distribution of peritonitis which are of importance. In some cases of intestinal ulceration there is a limited fibrinous exudate over the surface of the ulcer which does not contain micro-organisms. This fact is interpreted to mean that the micro-organisms are the cause of the peritonitis, but only by a chemic process through the toxins which they produce. But to exclude the presence of micro-organisms in the exudate, a very painstaking examination must be made. Not only cover-slip preparations should be examined, but cultures in every case, and if possible, animals should be inoculated. There is no question, however, of the occurrence of a very limited fibrinous exudate over the area without micro-organisms. Again, there may be quite a regular distribution of organisms in a localized peritonitis, patches of exudate appearing over a considerable area. One will sometimes find occasional bacteria in the pockets of pus, but no bacteria in the area around the pocket. The distribution of the exudate gives no guarantee of the distribution of bacteria, especially in the fibrinous and serofibrinous exudates.

DR. ROBERT ABBE desired to add a word in regard to

the use of antitoxin in cases of peritonitis. Notwithstanding the excellent results that have been reported, he did not think that the records would show any real benefit from its use. He had used it in three cases with what he thought were injurious results.

DR. WILLIAM H. CARMAULT moved that a vote of thanks be tendered to the Cosmos Club of Washington City for its courtesy in extending to the Congress the freedom of the club rooms during the meeting and for the "smoker" to which the members had been invited.

DR. WELCH, in declaring the Congress closed, remarked that the registration had been very creditable, over five hundred having registered, and a very large number had attended the meetings who had not enrolled their names. The program had been especially full and rich, and the general discussions had been excellent. He felt that the plan which had been adopted in preparing the program was a success, and he expressed his personal thanks to those who had taken part. The Congress was then declared closed.

AMERICAN GYNECOLOGICAL SOCIETY.

*Twenty Second Annual Meeting, Held at Washington,  
D. C., May 4, 5, and 6, 1897.*

FIRST DAY—MAY 4TH.

(Continued from page 608.)

The President, JAMES R. CHADWICK, M.D., in the Chair.

THE HISTORY AND PRESENT STATUS OF HYSTERECTOMY FOR FIBROID TUMORS OF THE UTERUS.

DR. A. PALMER DUDLEY of New York, in continuing the discussion, referred to what had been said in the paper in regard to the influence of American surgery upon the methods of performing hysterectomy in other parts of the world, and said that two years ago a foreign surgeon had visited this country and attended a meeting of the Society. A year later the speaker visited him at his home and saw him operate, and noticed that he had changed his technic to conform to that of American surgeons. In regard to the menopause having a beneficial effect upon cases of fibroid of the uterus, this is a continuation of the old idea that the menopause is a cure-all. If such were the case, then Hegar's operation would be the ideal one.

DR. W. T. LUSK of New York thought that most of the members were agreed as to the proper treatment of fibroid tumors of the uterus, and that their apparent difference of opinion might be caused by the different types of cases which they see. Personally, he had seen a large number of insignificant fibroids of the uterus, whose presence had been discovered accidentally, and which gave rise to no symptoms. He sent such patients away, telling them to be examined once a year or whenever any symptoms appeared. Where operation is necessary, he was in favor of myomectomy. In some of these cases removal of the appendages had been followed by good results. He was glad to hear advocated the partial removal of the uterus, *i.e.*, leaving the cervix. The atrophy

of the parts and sinking of the pelvic contents after total extirpation are often the cause of great discomfort.

DR. T. A. REAMY of Cincinnati thought that oophorectomy in the early stages often arrested the growth of uterine fibroids, but that it was illogical and unphysiologic to believe that the menopause, whether natural or artificial, could have a curative effect in the late stages. Observations made in the dead-house show that many women, who died from various causes, have these tumors and were not conscious of the fact. In view of one fact, therefore, that a fibroid tumor often causes no symptoms and does not grow to a large size, he was in favor of conservative treatment. If symptoms appear at any time, operation can be resorted to when necessary.

DR. BEVERLY MCMONAGLE of San Francisco was in favor of both conservative and radical treatment of these cases, according to what was meant by the former term. Conservative treatment in a woman in the childbearing period would not be conservative treatment in a woman who has passed that stage. If an old woman has a fibroid tumor which, by reason of its weight or by the pain it causes, brings her to us, it is our duty to remove the tumor. If the patient has passed the menopause, hysterectomy seemed to him the best treatment; in younger women, the reproductive function should be preserved whenever possible, and any operation which prevents her from bearing children is a bad operation. For this reason he was opposed to oophorectomy in these cases. Myomectomy, he considered, was the operation indicated.

DR. GEORGE J. ENGELMAN of Boston considered the technic of the operation employed less important than the condition for which it was performed. Fibroid tumors are spoken of in a general way, as if they were all alike, whereas they differ very much in character. The vast majority of these tumors are not dangerous to life, but are perfectly harmless. They are frequently found in the dead-house in working women who never suspected their presence because they caused no symptoms. In regard to the arrest of development of a tumor by the establishment of the menopause, the speaker thought this rarely happened, and that, on the contrary, the condition generally became worse.

DR. THOMAS ADDIS EMMET of New York cited the case of a young woman in whom a fibroid tumor of the uterus disappeared during pregnancy, and was afterward felt on one side and was found to be attached to an ovarian tumor, showing that these tumors can be transplanted. He had always been conservative in the treatment of cases of fibroid tumor of the uterus, and was entirely opposed to removal of the uterus for this purpose. He thought hysterectomy had been done too often, and he never performs it if it can be avoided. In many cases he had removed large uterine tumors, piece by piece, through the uterine canal, and had also removed tumors of the broad ligament by entering the cavity between the bladder and the uterus. Now that the operation of hysterectomy had been so perfected, he hoped it would be performed less often, and that the profession would devote their attention to the genesis of fibroid tumors and endeavor to prevent their formation. He was convinced that they do

not develop in women whose menstrual function is properly performed. A woman whose uterus is capable of making in its lining membrane a bed for a fecundated ovum, will never have a uterine fibroid.

DR. NOBLE, in closing, said he had several objects in view when he presented the paper, one of which was to point out the difference between true conservatism which considers the interest of the patient, and false conservatism which does nothing. Another was in regard to the fallacy that the advent of the menopause cures fibroids of the uterus. Twenty-five per cent. of his cases operated upon had passed the menopause. He had removed the appendages for the arrest of these growths and some of the cases did well, but the results of myomectomy are more satisfactory. He did not consider any operation conservative in which the tubes and ovaries were removed. He referred to what had been said about recurrence after myomectomy, and said the percentage was very low.

DR. H. J. GARRIGUES of New York then read a paper, entitled

#### SECONDARY OPERATIONS.

The author referred to the necessity of guarding against infection while operating and the tearing of the delicate peritoneal covering of the intestines and other viscera, which would cause the formation of adhesions and make a secondary operation necessary. He reported a number of cases to illustrate his statements, one of which was that of a woman who had been subjected to seven laparotomies and might have to undergo another.

#### DISCUSSION.

DR. A. LAPHORN SMITH of Montreal regretted that the author had not given the indications for reopening the abdomen when things were not going on well. He cited a case in which he opened the abdomen of a patient who had had a previous laparotomy for ventral fixation of the uterus, and had found the fundus firmly adherent. All went well until the ninth day, when the patient refused food and began to vomit. The following day there was fecal vomiting, and the abdomen was reopened. The intestine above was found very much distended and collapsed below, and in one place had become adherent to a raw spot made by tearing away adhesions, and in this way caused obstruction. The patient recovered. The case served to show the importance of covering over all raw surfaces in the peritoneal cavity.

#### SECOND DAY—MAY 5th.

DR. ANDREW F. CURRIER of New York read a paper, entitled

#### SUGGESTIONS CONCERNING VENTRAL HERNIA RESULTING FROM ABDOMINAL SECTION, AND ITS TREATMENT.

He considered ventral herniæ under three headings: (1) *simple*, (2) *multiple*, and (3) *massive*. In the first variety there is a splitting apart of the muscular fibers, the peritoneum usually remaining intact and forming a sac which, with the abdominal contents, protrudes. The rent may gradually become larger, but there is no strangulation. The intestines in the sac become bound together,

but the symptoms produced are usually very slight, being merely a feeling of discomfort. In the second variety the condition is more complicated. Separation of the muscular fibers takes place not only in the middle line, but in various parts of the abdominal wall, and generally occurs in women with weak, flabby tissues and much fat. This is the rarest variety of the three, and gives rise to many symptoms, and occasionally strangulation occurs. The third variety includes cases where the hernia is the size of a child's head or larger, and is usually a result of the smaller variety. To protect the parts, Nature throws out a fibrous ring around these herniæ at the border of the tear in the muscle, and the peritoneum becomes thickened. This variety gives rise to serious symptoms, and often becomes irreducible.

The author was of the opinion that all cases of ventral hernia should be operated upon as early as possible no matter to which variety they belonged and even when they caused but little discomfort. The old wound should be refreshed and the edges of the fascia brought together. In cases of long standing, the superfluous peritoneum should be removed. In cases where the abdominal tension is great, he advocates making longitudinal incisions through the fascia. Accumulations of fat should also be dissected out. Suture of the wound is a most important point, the object being to bring the edges of the tissues together and to hold them there until union is firm. He prefers silk worm gut to any other material for this purpose. Catgut was unsafe because of its liability to become infected, and the same can be said of silk. Silk worm gut sutures can be left in for three or four weeks, after which they either become loose or cause irritation. He employs a modification of the buried suture, because of the disadvantages of the latter, and introduces it as follows: Two curved needles are threaded on the ends of a strand of silk worm gut and both are introduced just above the angle of the wound from without inward, passing through peritoneum, fascia and muscle, and are then brought out and again inserted from above downward, and so on until the lower angle of the wound is reached, in the same manner as a shoe is laced. If the wound is not more than three inches in length, one suture is sufficient; if longer than this, a second suture should be inserted beginning at the lower angle of the wound and meeting the one from above at the middle of the wound. The skin is then united by a continuous suture of the same material. To protect the skin, a thin strip of gauze is passed under each suture. The superficial sutures are removed in two weeks and the deep ones two weeks later. The patient is kept in bed for a few days after the removal of the sutures and adhesive straps are worn to protect the wound for the next week or so.

#### DISCUSSION.

DR. J. M. BALDY said he had employed a silk suture for uniting the peritoneum and a similar one for the fascia and silk worm gut for the skin with excellent results.

DR. A. LAPHORN SMITH urged the importance of leaving the sutures in for a long time. Hernia following operation had become very rare in his practice since he had adopted this plan.

DR. JOSEPH TABER JOHNSON thought that any method of closing an abdominal wound which would prevent ventral hernia should be hailed with delight. Most of the methods proposed, however, seemed very cumbersome and occupied a great deal of time, and thus necessitated a long anesthesia and caused additional shock to the patient. He thought that a series of through-and-through sutures, properly introduced and near enough together, embracing a good deal of the structures and drawn together with not too much force, would secure good union.

DR. A. P. DUDLEY said that the proper way to prevent hernia was to bring the edges of the linea alba together accurately. He did not think it was possible to get good union by over-lapping the ends of the fascia. He was also opposed to any suture method which included all the structures.

DR. CURRIER closed the discussion by saying he agreed with Dr. Johnson that any method of closing an abdominal wound properly and quickly would be desirable, but did not think that the method he recommended in the paper could be called cumbersome. It was necessary to use several rows of sutures because in most of the cases it is impossible to get good union with a through-and-through suture. The disadvantage of the buried suture is that after a month it causes irritation. As to the percentage of herniæ, occurring after operation, he thought this a difficult matter for a surgeon to decide for the cases did not always return to him when a hernia developed. Many cases of ventral hernia came to him who had been operated upon by other surgeons. The speaker emphasized the fact that all of these herniæ are not caused by imperfect technic.

THE PRESIDENT then read the annual address.

He said in part: Abdominal surgery in general is the outcome of ovariectomy, so that in its early days the history of the former is included in the history of the latter. For this reason, we Americans have an additional incentive in reiterating the indisputable fact that the first operation was done on our soil by one of our own countrymen. On the continent of Europe the operation had found but little favor. In Germany the first operation was performed by Chrysmar of Isny, Württemberg, in May, 1819; but from that year till 1850 but twenty-three operations were done, with only seven recoveries. In France there was no operation until that by Dr. Woyerkowsky in 1844, and but three (with two successes) up to 1850. In 1857 came the revival of ovariectomy, as it was called by Spencer Wells in the title of one of his retrospective papers, his participation in which earned for him the name of the "Greatest Ovariectomist." The secret of his success did not consist in any special procedure, but by attention to a multiplicity of details, which in the aggregate did a great deal to ensure recovery. Simple bandages for keeping the patient quiet supplied the place of an objectionable crowd of assistants. Every spectator had to declare that he had not made a *post-mortem* examination, or been in a dissecting-room, or attended a case of infectious disease within a week. The room, bedding, clothing, sponges, and instruments received the

utmost attainable purification. The incision in the abdominal was shortened; the cyst was emptied before it was drawn out; extreme care was taken to prevent the entrance of ovarian fluid into the peritoneal cavity, and likewise to cleanse the cavity of all blood and fluid.

The final great innovation that has stimulated the practice of surgery was due to the discoveries of Louis Pasteur. Joseph Lister of Edinburgh first made a practical application of these studies of Pasteur and Lemaire. In 1867 he published a paper in the *Lancet* setting forth his crude methods of excluding germs from wounds. Of course it was at once seen by ovariologists how vital this innovation of Lister's, if correct, would be in affecting the results of their work. Among the earliest to study Lister's methods was his fellow-townsmen and friend, Thomas Keith.

The abdominal cavity was next invaded for the removal of fibroid tumors of the uterus. The earlier operations for this purpose were done when fibroids were erroneously taken for ovarian tumors.

So we find ourselves at the end of the nineteenth century with less reason to dread the opening of the abdominal cavity than our immediate predecessors had to dread even minor operations upon the body and limbs. The benefit of this advance to the individual and to the race is manifest; but I would beg you to pause a moment and consider with me if this operative mania has not gone too far—whether the time has not come when we must take an account of stock and differentiate more closely, in the individual cases, whether a removal of the whole or a part of the generative organs of a woman is the only method available for the cure of the diseases or injuries to which these organs are liable.

The natural menopause is attended with a prolonged derangement of the nervous system, not infrequently with impairment of the mental faculties. How much more pronounced are the ultimate effects of the menopause likely to be when the change of life is artificially produced when the nutrition and other functions are in full vigor. Of course, if the mishaps attendant upon childbirth and the diseases invading the sexual organs are incurable by other means than the surgeon's knife, exposure to the sequelæ of the menopause may be the lesser of the two evils; but let us not operate without an eye to the future as well as the present.

DR. EDWARD P. DAVIS of Philadelphia read a paper, entitled

PRIMARY TUBERCULOSIS OF THE BREAST COMPLICATING PREGNANCY,

which will appear in full in a later issue of the NEWS.

DISCUSSION.

DR. H. T. HANKS said that a similar case had come under his observation. When first seen, the patient was somewhat septic, and was supposed to be suffering from cancer of the breast. The latter was amputated, and the woman died three days later of sepsis. The pathologist reported it to be tuberculous mastitis.

DR. PAUL F. MUNDE read a paper, entitled

PERITYPHLITIS AND APPENDICITIS IN THEIR RELATIONS TO OBSTETRICS AND GYNECOLOGY.

(See page 621.)

DISCUSSION.

DR. W. E. FORD of Utica, N. Y., mentioned the case of a girl of sixteen upon whom he had operated for appendicitis. He evacuated the pus, but was unable to remove the appendix. The girl did well for a few days, and then became septic, so he operated again, thinking that another abscess was present, but found only a little pus at the bottom of the tract. Upon making a vaginal examination a large abscess was found, which had not existed at the time of the first operation, and more than a quart of pus was evacuated. There was no history of ovarian or tubal disease.

The speaker also reported a death from iodoform poisoning. He had been called to the country to operate upon a girl supposed to be suffering from appendicitis. No tumor was found in that locality, but an enormous abscess was found in the pelvic cavity, which was opened through the vagina, and two quarts of very offensive pus evacuated. After irrigating the cavity the speaker proceeded to pack it with iodoform gauze, and called the attention of his assistant to the bright yellow color of the gauze, but was assured that it was the ten-per-cent. gauze usually employed. About a yard of it was used. The temperature immediately fell after the operation, and the patient did well for several days, when a wild delirium came on without rise of temperature or other symptoms, and lasted until the patient died twelve hours later. The *post-mortem* showed no sepsis. The girl had a dilatation of the right side of the heart as a result of over-exertion in bicycling.

DR. A. LAPHORN SMITH had frequently met with disease of the appendix while operating for pus-tubes, and in three instances had found the appendix apparent to the tube.

DR. R. A. MURRAY read a paper, entitled

THE TREATMENT OF SYPHILITIC WOMEN IN PREGNANCY AND PARTURITION,

which will appear in a later issue of THE NEWS.

DISCUSSION.

DR. EDWARD P. DAVIS confirmed all the views of the author, but thought in regard to the diagnosis of these cases that no examination was complete unless it included an examination of the genital tract. The predominant feature which makes syphilis dangerous during pregnancy is the anemia which accompanies it, and causes death of the fetus. Treatment, therefore, should be directed to this anemia, and iron and strychnia given in addition to anti-syphilitic treatment. He thought it questionable to allow a syphilitic mother to nurse her child. It should be fed on modified milk or other artificial food. He also referred to the fact that syphilis in pregnant women usually leaves behind it an endometritis.

DR. MURRAY, in closing, said that he did not mean to say that a syphilitic mother should nurse her child, but that no other woman should be allowed to nurse it.

DR. A. PALMER DUDLEY read a paper, entitled  
SOME PATHOGNOMONIC PHYSICAL SIGNS OF CHRONIC  
GONORRHEAL INFECTION IN WOMEN, AND THEIR  
VALUE IN THE DIAGNOSIS OF PELVIC DISEASE.

### THIRD DAY—MAY 6TH.

DR. THOMAS ADDIS EMMET of New York read a paper, entitled

WHEN TO AMPUTATE IN PREFERENCE TO THE  
USUAL OPERATION FOR LACERATIONS OF THE  
CERVIX UTERI.

The author emphasized the fact that amputation, as described in the paper, is in no way intended to replace trachelorrhaphy, but is to be employed in exceptional cases in which it is not possible to get a good result with the latter operation. The operation is indicated in cases of long standing in which the nutrition of the parts has become impaired, making it unfit to hold sutures, and in those cases where the laceration has been deep, involving more or less of the pelvic connective tissue and vaginal wall, and in which there is much scar tissue in the angles of the tear. He also laid stress upon the fact that amputation of the cervix alone in these cases is not sufficient, and that after-treatment, as well as preparatory treatment, should be employed. The operation advised is performed as follows: The uterus is drawn down by gentle traction to the vaginal outlet, and steadied by an assistant; the line of vaginal junction is then established, in order to avoid opening into the bladder in front or the peritoneal cavity behind; an excavation in the shape of a cone is then made in the cervix by cutting with curved scissors toward the center. As each blood-vessel is divided, the neighboring tissues should be seized with forceps as a fresh point of traction, and in this way arresting the hemorrhage. The dissection is continued until healthy tissue is reached. The vaginal tissue is then drawn over the stumps, and stitched to the lining membrane of the uterine canal with silver wire sutures. The two essential features of the operation are to secure primary union and to guard against closure of the cervical canal. To ensure the former, as many precautions against sepsis should be taken as for a laparotomy.

### DISCUSSION.

DR. PAUL F. MUNDE considered the operation proposed a good one. He has often amputated elongated cervixes with the knife, and stitched the mucous membrane of the vagina to the lining of the cervical canal. He generally combines the operation with anterior and posterior colporrhaphy and Alexander's operation in those cases where there is hypertrophy and prolapse of the uterus.

DR. J. RIDDLE GOFFE said he was opposed to the term "amputation of the cervix," because it gives a false impression of the procedure. He was of the opinion that all cases of laceration of the cervix can be repaired and a good result obtained by the original Emmet operation. A tightly rolled piece of gauze introduced into the canal will keep the latter patulous. In cases where one lip is degenerated or elongated and the other healthy, the former

can be removed, but the equilibrium of the organ is destroyed if much of the cervix is taken away.

DR. A. PALMER DUDLEY said he understood the author to say the operation referred to was not intended to take the place of any operation which could save the cervix. He had seen cases in which the elongated cervix protruded through the vulva, and in which no operation but amputation was applicable.

DR. EMMET closed the discussion by saying that the Schroeder operation was really the Emmet operation, which the speaker had performed as far back as 1866. It was conceived by Dr. Sims, but was not successfully practised by him, on account of constant oozing of blood under the flaps and an occasional abscess.

DR. A. LAPHORN SMITH of Montreal read a paper, entitled

RESULT OF TWO HUNDRED OPERATIONS FOR THE  
CURE OF RETRODISPLACEMENTS OF THE UTERUS.

Ventral fixation, the author said, is not indicated in cases where there is simply a falling back of the uterus, tubes, and ovaries, and is considered unjustifiable by most operators if the condition can be cured by other measures. Obstruction of the bowel, due to the latter being caught between the sutures, is the chief danger, and another disadvantage is the possibility of subsequent hernia.

Alexander's operation, which is without the disadvantages of the abdominal operation, and in which there is no primary mortality, is indicated in every case where the uterus is not adherent, and in many instances failures are due to inability on the part of the operator to recognize adhesions. When the uterus immediately springs back after having been brought up to the symphysis pubis, this should be considered as contraindicating the operation, and ventral fixation, or, preferably, suspension of the uterus should be performed. If the proper technic is employed, Alexander's operation can be performed in a minute or a minute and a half. A small incision should be made. The secret of success lies in cutting down to the pubis.

DR. M. D. MANN of Buffalo read a paper, entitled

INTRA-ABDOMINAL SHORTENING OF THE ROUND LIG-  
AMENTS FOR POSTERIOR DISPLACEMENTS OF THE  
UTERUS.

The author described a method of shortening the round ligaments through an abdominal incision, which consisted in doubling them upon themselves in three equal lengths and stitching them together. He reported fifty-eight cases treated by this method.

DR. EDWARD REYNOLDS of Boston read a paper, entitled

A PRELIMINARY REPORT ON A NEW METHOD OF  
VAGINAL FIXATION.

The author described the forces, the utero-sacral ligaments behind and that attached to the anterior vaginal wall, which determine the normal position of the uterus, and showed by diagrams how a too low anterior attachment will throw the uterus backward. He advised the following procedure to overcome this condition: A short, anterior vaginal incision is made, and the blad-

der separated up to the level of the internal os, as previously ascertained by the sound; the uterus is now replaced, and the point at which the bladder separates from the anterior wall is carefully determined by a sound introduced into the bladder. A cervix needle, threaded with a silk carrier, is introduced in the vaginal wall at a point in front of the separation between it and the bladder, and is carried obliquely through the tissues, emerging on the cut surface just below its junction with the bladder. A silver suture is threaded on the carrier, and drawn through the cervix at the level of the internal os, and brought out through the anterior vaginal wall at a similar point upon the opposite side. A second suture is placed as near the first as possible, care being taken that the uterus is still well forward, and the sutures twisted and turned down. Coarse wire should be used, as the stitches will be exposed to considerable tension. The cut edges of the mucous membrane are then stitched together with fine catgut. It is important that the apposition of the superficial wound should not be allowed to increase the tension upon the deep sutures.

DR. J. RIDDLE GOFFE of New York read a paper, entitled

SHORTENING THE ROUND LIGAMENTS THROUGH THE ANTERIOR VAGINAL FORNIX FOR POSTERIOR DISPLACEMENTS OF THE UTERUS.

The technic of the operation was described as follows: The uterus is drawn well down to the vulva; a cross section is made at the utero-vaginal junction, and the vaginal tissues dissected off the bladder down to the peritoneal reflection; the central point of this incision is then caught up and the anterior vaginal wall drawn taut; a longitudinal incision is then made extending to the neck of the bladder, and blunt dissection from the urethra to the cross section separates the tissues for an inch and a half on either side. The peritoneum is broken through, and the finger is hooked over the fundus of the uterus which is delivered into the vagina. A free incision will permit the breaking up of all adhesions and inspection of the appendages, which may be removed, if necessary. The round ligament on one side is then caught up with the fingers, the sheath opened with an aneurism needle, the ligament drawn up two or two and a half inches, doubled upon itself, and stitched with two or three fine sutures, and the same done on the opposite side; the uterus is then replaced, and a little gauze is introduced between it and the bladder. The longitudinal incision in the vagina is closed with a running catgut suture. The author has employed this method in eight cases with entirely satisfactory results.

DISCUSSION.

DR. PAUL F. MUNDE said that inasmuch as he was the first to perform Alexander's operation in this country, he was much gratified to see how generally it has been accepted. Dr. Smith's admirable description of the first part of the technic is identical with the one the speaker has always employed. The operation results in a permanent cure in nearly all cases, and is the operation in cases of movable retroflexed uteri where the appendages are not diseased.

DR. BEVERLY MCMONAGLE said that Alexander's operation is often followed by suppuration and scars, and he prefers treating these cases by opening the abdomen and suspending the uterus, after the method of Kelly. He is opposed to fixation of the uterus, whether from above or below, because it interferes with pregnancy. He also referred to the pain and numbness complained of by patients who had been subjected to vaginal fixation.

DR. A. PALMER DUDLEY said he had discarded ventral fixation because he had lost a patient from obstruction of the bowels following this operation. He never performs Alexander's operation unless he can make a diagnosis of perfect appendages.

DR. H. J. GARRIGUES had performed Alexander's operation, combined with colporrhaphy, with good results. He did not think it is of much service if there is much descent of the uterus and hypertrophy of the supravaginal portion of the uterus. Amputation of the cervix should be performed in these cases in order to secure the involution of the uterus which follows this operation.

DR. E. E. MONTGOMERY of Philadelphia read a paper, entitled

PELVIC BLOOD COLLECTIONS AND THEIR TREATMENT BY VAGINAL INCISION.

The most common cause of internal hemorrhage and the formation of blood collections is the rupture of an ectopic pregnancy, but may be due to many other causes. Intrapertoneal hemorrhage is the most serious, and, if extensive, may be followed by such profound shock that death occurs in a few hours. In other cases the bleeding is slow and may remain encysted, become absorbed, or is discharged into the rectum, vagina, or bladder. If there is reason to believe that the hemorrhage had ceased, it is not necessary to operate on a recent case, and in this was run the risk of dislodging a clot and causing a fresh hemorrhage. In all other cases, the collection of blood should be evacuated whether it be free in the abdominal cavity or encysted. A free vaginal incision was advocated for this purpose as being the easiest method of reaching the hematocoele. After clearing out the cavity, it should be irrigated with normal salt solution and packed with sterile gauze.

DISCUSSION.

DR. HARRIS cited two cases of hematocoele which had come under his observation. The first resulted from torsion of the pedicle of an ovarian tumor. The second case was that of a woman who had been confined two weeks previously, whom he had been called to see on account of an abscess of the vagina which had discharged spontaneously a few days before. A boggy tumor of the vagina was incised and a large quantity of pure blood evacuated. The cause of the hematocoele could not be ascertained. Labor had been normal.

DR. E. W. CUSHING of Boston then read a paper, entitled

SOCIOLOGICAL ASPECTS OF GONORRHEA.

After the discussion of this paper the president introduced the newly elected president, Dr. Paul F. Mundé of New York, with a few well chosen remarks.

but the symptoms produced are usually very slight, being merely a feeling of discomfort. In the second variety the condition is more complicated. Separation of the muscular fibers takes place not only in the middle line, but in various parts of the abdominal wall, and generally occurs in women with weak, flabby tissues and much fat. This is the rarest variety of the three, and gives rise to many symptoms, and occasionally strangulation occurs. The third variety includes cases where the hernia is the size of a child's head or larger, and is usually a result of the smaller variety. To protect the parts, Nature throws out a fibrous ring around these herniae at the border of the tear in the muscle, and the peritoneum becomes thickened. This variety gives rise to serious symptoms, and often becomes irreducible.

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DR. EDWARD P. DAVIS of Philadelphia read a paper, entitled

PRIMARY TUBERCULOSIS OF THE BREAST COMPLICATING PREGNANCY,

which will appear in full in a later issue of the NEWS.

DISCUSSION.

DR. H. T. HANKS said that a similar case had come under his observation. When first seen, the patient was somewhat septic, and was supposed to be suffering from cancer of the breast. The latter was amputated, and the woman died three days later of sepsis. The pathologist reported it to be tuberculous mastitis.

DR. PAUL F. MUNDE read a paper, entitled

PERITYPHLITIS AND APPENDICITIS IN THEIR RELATIONS TO OBSTETRICS AND GYNECOLOGY.

(See page 631.)

DISCUSSION.

DR. W. E. FORD of Utica, N. Y., mentioned the case of a girl of sixteen upon whom he had operated for appendicitis. He evacuated the pus, but was unable to remove the appendix. The girl did well for a few days, and then became septic, so he operated again, thinking that another abscess was present, but found only a little pus at the bottom of the tract. Upon making a vaginal examination a large abscess was found, which had not existed at the time of the first operation, and more than a quart of pus was evacuated. There was no history of ovarian or tubal disease.

The speaker also reported a death from iodoform poisoning. He had been called to the country to operate upon a girl supposed to be suffering from appendicitis. No tumor was found in that locality, but an enormous abscess was found in the pelvic cavity, which was opened through the vagina, and two quarts of very offensive pus evacuated. After irrigating the cavity the speaker proceeded to pack it with iodoform gauze, and called the attention of his assistant to the bright yellow color of the gauze, but was assured that it was the ten-per-cent. gauze usually employed. About a yard of it was used. The temperature immediately fell after the operation, and the patient did well for several days, when a wild delirium came on without rise of temperature or other symptoms, and lasted until the patient died twelve hours later. The *post-mortem* showed no sepsis. The girl had a dilatation of the right side of the heart as a result of over-exertion in bicycling.

DR. A. LAPHORN SMITH had frequently met with disease of the appendix while operating for pus-tubes, and in three instances had found the appendix apparent to the tube.

DR. R. A. MURRAY read a paper, entitled

THE TREATMENT OF SYPHILITIC WOMEN IN PREGNANCY AND PARTURITION,

which will appear in a later issue of THE NEWS.

DISCUSSION.

DR. EDWARD P. DAVIS confirmed all the views of the author, but thought in regard to the diagnosis of these cases that no examination was complete unless it included an examination of the genital tract. The predominant feature which makes syphilis dangerous during pregnancy is the anemia which accompanies it, and causes death of the fetus. Treatment, therefore, should be directed to this anemia, and iron and strychnia given in addition to anti-syphilitic treatment. He thought it questionable to allow a syphilitic mother to nurse her child. It should be fed on modified milk or other artificial food. He also referred to the fact that syphilis in pregnant women usually leaves behind it an endometritis.

DR. MURRAY, in closing, said that he did not mean to say that a syphilitic mother should nurse her child, but that no other woman should be allowed to nurse it.

DR. A. PALMER DUDLEY read a paper, entitled  
SOME PATHOGNOMONIC PHYSICAL SIGNS OF CHRONIC  
GONORRHEAL INFECTION IN WOMEN, AND THEIR  
VALUE IN THE DIAGNOSIS OF PELVIC DISEASE.

#### THIRD DAY—MAY 6TH.

DR. THOMAS ADDIS EMMET of New York read a  
paper, entitled

WHEN TO AMPUTATE IN PREFERENCE TO THE  
USUAL OPERATION FOR LACERATIONS OF THE  
CERVIX UTERI.

The author emphasized the fact that amputation, as described in the paper, is in no way intended to replace trachelorrhaphy, but is to be employed in exceptional cases in which it is not possible to get a good result with the latter operation. The operation is indicated in cases of long standing in which the nutrition of the parts has become impaired, making it unfit to hold sutures, and in those cases where the laceration has been deep, involving more or less of the pelvic connective tissue and vaginal wall, and in which there is much scar tissue in the angles of the tear. He also laid stress upon the fact that amputation of the cervix alone in these cases is not sufficient, and that after-treatment, as well as preparatory treatment, should be employed. The operation advised is performed as follows: The uterus is drawn down by gentle traction to the vaginal outlet, and steadied by an assistant; the line of vaginal junction is then established, in order to avoid opening into the bladder in front or the peritoneal cavity behind; an excavation in the shape of a cone is then made in the cervix by cutting with curved scissors toward the center. As each blood-vessel is divided, the neighboring tissues should be seized with forceps as a fresh point of traction, and in this way arresting the hemorrhage. The dissection is continued until healthy tissue is reached. The vaginal tissue is then drawn over the stumps, and stitched to the lining membrane of the uterine canal with silver wire sutures. The two essential features of the operation are to secure primary union and to guard against closure of the cervical canal. To ensure the former, as many precautions against sepsis should be taken as for a laparotomy.

#### DISCUSSION.

DR. PAUL F. MUNDE considered the operation proposed a good one. He has often amputated elongated cervixes with the knife, and stitched the mucous membrane of the vagina to the lining of the cervical canal. He generally combines the operation with anterior and posterior colporrhaphy and Alexander's operation in those cases where there is hypertrophy and prolapse of the uterus.

DR. J. RIDDLE GOFFE said he was opposed to the term "amputation of the cervix," because it gives a false impression of the procedure. He was of the opinion that all cases of laceration of the cervix can be repaired and a good result obtained by the original Emmet operation. A tightly rolled piece of gauze introduced into the canal will keep the latter patulous. In cases where one lip is degenerated or elongated and the other healthy, the former

can be removed, but the equilibrium of the organ is destroyed if much of the cervix is taken away.

DR. A. PALMER DUDLEY said he understood the author to say the operation referred to was not intended to take the place of any operation which could save the cervix. He had seen cases in which the elongated cervix protruded through the vulva, and in which no operation but amputation was applicable.

DR. EMMET closed the discussion by saying that the Schroeder operation was really the Emmet operation, which the speaker had performed as far back as 1866. It was conceived by Dr. Sims, but was not successfully practised by him, on account of constant oozing of blood under the flaps and an occasional abscess.

DR. A. LAPHORN SMITH of Montreal read a paper, entitled

RESULT OF TWO HUNDRED OPERATIONS FOR THE  
CURE OF RETRODISPLACEMENTS OF THE UTERUS.

Ventral fixation, the author said, is not indicated in cases where there is simply a falling back of the uterus, tubes, and ovaries, and is considered unjustifiable by most operators if the condition can be cured by other measures. Obstruction of the bowel, due to the latter being caught between the sutures, is the chief danger, and another disadvantage is the possibility of subsequent hernia.

Alexander's operation, which is without the disadvantages of the abdominal operation, and in which there is no primary mortality, is indicated in every case where the uterus is not adherent, and in many instances failures are due to inability on the part of the operator to recognize adhesions. When the uterus immediately springs back after having been brought up to the symphysis pubis, this should be considered as contraindicating the operation, and ventral fixation, or, preferably, suspension of the uterus should be performed. If the proper technic is employed, Alexander's operation can be performed in a minute or a minute and a half. A small incision should be made. The secret of success lies in cutting down to the pubis.

DR. M. D. MANN of Buffalo read a paper, entitled

INTRA-ABDOMINAL SHORTENING OF THE ROUND LIG-  
AMENTS FOR POSTERIOR DISPLACEMENTS OF THE  
UTERUS.

The author described a method of shortening the round ligaments through an abdominal incision, which consisted in doubling them upon themselves in three equal lengths and stitching them together. He reported fifty-eight cases treated by this method.

DR. EDWARD REYNOLDS of Boston read a paper, entitled

A PRELIMINARY REPORT ON A NEW METHOD OF  
VAGINAL FIXATION.

The author described the forces, the utero-sacral ligaments behind and that attached to the anterior vaginal wall, which determine the normal position of the uterus, and showed by diagrams how a too low anterior attachment will throw the uterus backward. He advised the following procedure to overcome this condition: A short, anterior vaginal incision is made, and the blad-

der separated up to the level of the internal os, as previously ascertained by the sound; the uterus is now replaced, and the point at which the bladder separates from the anterior wall is carefully determined by a sound introduced into the bladder. A cervix needle, threaded with a silk carrier, is introduced in the vaginal wall at a point in front of the separation between it and the bladder, and is carried obliquely through the tissues, emerging on the cut surface just below its junction with the bladder. A silver suture is threaded on the carrier, and drawn through the cervix at the level of the internal os, and brought out through the anterior vaginal wall at a similar point upon the opposite side. A second suture is placed as near the first as possible, care being taken that the uterus is still well forward, and the sutures twisted and turned down. Coarse wire should be used, as the stitches will be exposed to considerable tension. The cut edges of the mucous membrane are then stitched together with fine catgut. It is important that the apposition of the superficial wound should not be allowed to increase the tension upon the deep sutures.

DR. J. RIDDLE GOFFE of New York read a paper, entitled

SHORTENING THE ROUND LIGAMENTS THROUGH THE ANTERIOR VAGINAL FORNIX FOR POSTERIOR DISPLACEMENTS OF THE UTERUS.

The technic of the operation was described as follows: The uterus is drawn well down to the vulva; a cross section is made at the utero-vaginal junction, and the vaginal tissues dissected off the bladder down to the peritoneal reflection; the central point of this incision is then caught up and the anterior vaginal wall drawn taut; a longitudinal incision is then made extending to the neck of the bladder, and blunt dissection from the urethra to the cross section separates the tissues for an inch and a half on either side. The peritoneum is broken through, and the finger is hooked over the fundus of the uterus which is delivered into the vagina. A free incision will permit the breaking up of all adhesions and inspection of the appendages, which may be removed, if necessary. The round ligament on one side is then caught up with the fingers, the sheath opened with an aneurism needle, the ligament drawn up two or two and a half inches, doubled upon itself, and stitched with two or three fine sutures, and the same done on the opposite side; the uterus is then replaced, and a little gauze is introduced between it and the bladder. The longitudinal incision in the vagina is closed with a running catgut suture. The author has employed this method in eight cases with entirely satisfactory results.

DISCUSSION.

DR. PAUL F. MUNDE said that inasmuch as he was the first to perform Alexander's operation in this country, he was much gratified to see how generally it has been accepted. Dr. Smith's admirable description of the first part of the technic is identical with the one the speaker has always employed. The operation results in a permanent cure in nearly all cases, and is the operation in cases of movable retroflexed uteri where the appendages are not diseased.

DR. BEVERLY MCMONAGLE said that Alexander's operation is often followed by suppuration and scars, and he prefers treating these cases by opening the abdomen and suspending the uterus, after the method of Kelly. He is opposed to fixation of the uterus, whether from above or below, because it interferes with pregnancy. He also referred to the pain and numbness complained of by patients who had been subjected to vaginal fixation.

DR. A. PALMER DUDLEY said he had discarded ventral fixation because he had lost a patient from obstruction of the bowels following this operation. He never performs Alexander's operation unless he can make a diagnosis of perfect appendages.

DR. H. J. GARRIGUES had performed Alexander's operation, combined with colporrhaphy, with good results. He did not think it is of much service if there is much descent of the uterus and hypertrophy of the supravaginal portion of the uterus. Amputation of the cervix should be performed in these cases in order to secure the involution of the uterus which follows this operation.

DR. E. E. MONTGOMERY of Philadelphia read a paper, entitled

PELVIC BLOOD COLLECTIONS AND THEIR TREATMENT BY VAGINAL INCISION.

The most common cause of internal hemorrhage and the formation of blood collections is the rupture of an ectopic pregnancy, but may be due to many other causes. Intraperitoneal hemorrhage is the most serious, and, if extensive, may be followed by such profound shock that death occurs in a few hours. In other cases the bleeding is slow and may remain encysted, become absorbed, or is discharged into the rectum, vagina, or bladder. If there is reason to believe that the hemorrhage had ceased, it is not necessary to operate on a recent case, and in this was run the risk of dislodging a clot and causing a fresh hemorrhage. In all other cases, the collection of blood should be evacuated whether it be free in the abdominal cavity or encysted. A free vaginal incision was advocated for this purpose as being the easiest method of reaching the hematocele. After clearing out the cavity, it should be irrigated with normal salt solution and packed with sterile gauze.

DISCUSSION.

DR. HARRIS cited two cases of hematocele which had come under his observation. The first resulted from torsion of the pedicle of an ovarian tumor. The second case was that of a woman who had been confined two weeks previously, whom he had been called to see on account of an abscess of the vagina which had discharged spontaneously a few days before. A boggy tumor of the vagina was incised and a large quantity of pure blood evacuated. The cause of the hematocele could not be ascertained. Labor had been normal.

DR. E. W. CUSHING of Boston then read a paper, entitled

SOCIOLOGICAL ASPECTS OF GONORRHEA.

After the discussion of this paper the president introduced the newly elected president, Dr. Paul F. Mundé of New York, with a few well chosen remarks.

DR. MUNDE thanked the members for their confidence in him and said he would do all in his power to make the next meeting of the Society as successful as the present one and those which preceded it.

#### AMERICAN LARYNGOLOGICAL ASSOCIATION.

*Nineteenth Annual Meeting, Held at Washington, D.C., May 4, 5, and 6, 1897.*

##### FIRST DAY—MAY 4TH.

DR. CHARLES H. KNIGHT of New York delivered the President's Address. After a greeting to the members he called attention to the necessity of greater attention to antisepsis in clinical work. The matter had been forcibly brought to his attention by the recent observation of several unfortunate cases due to a lack of care in this respect. Closely allied to this topic is that of antisepsis in general. It may be impossible to attain perfect asepsis in nasal surgery, and in view of the perfect drainage usually attained, perhaps it is not necessary.

A question much discussed at the present time is that of the value of the laryngoscope in relation to the singing voice. In spite of the various claims made for it, it has hardly done more than to corroborate information already obtained in other ways. As to voice-production, we know from the remarkable results which have followed certain laryngectomies that intelligible speech is possible without a larynx by means of the aid afforded by the lips, tongue, palate, teeth, wall of the pharynx, nasal chambers, and the bones of the skull.

On the other hand, the mirror enables us to make out whether, in a given case of vocal impairment, the difficulty lies in faulty innervation, altered muscular action, neoplasms, hypertrophies, or simple inflammation. We are often compelled to take charge of patients who are aspirants for musical honors, but to whom Nature has denied the essentials of success; yet we may frequently assist in the restoration of a lost voice or give such advice as will lead to its recovery.

The remarkable discovery of Röntgen bids fair to be of service in the special field of laryngology. A corresponding fellow of this association, Dr. John MacIntyre of Glasgow, has successfully experimented with the rays. They will doubtless be of use in locating foreign bodies, determining the size of tumors, and in marking out the extent of malignant infiltration.

##### GUAIACOL AS A LOCAL ANESTHETIC IN MINOR NOSE AND THROAT OPERATIONS

was the title of a paper by DR. JAMES E. NEWCOMB of New York.

The writer said that while cocain is in a general way an ideal local anesthetic, unpleasant, not to say dangerous, effects sometimes follow its use, and attempts had been made to find a substitute for it. Eucain and tropococain had been used, and were still on trial. Quite recently guaiacol had been suggested for this purpose. Laurens of Paris had used a solution in olive oil, and reported quite promising results. In the ear, a few drops of the warmed preparation had, after preliminary cleansing,

been instilled, and in fifteen or twenty minutes removed with hydrophile gauze. Sufficient anesthesia was thereby induced to enable paracentesis of the drum membrane to be painlessly performed. A similar application may be of service in incising furuncles of the meatus. In the nose, after spraying and tamponing in the usual manner, the inferior turbinates may be cauterized without any discomfort. So also polypi may be removed with the cold snare, and even with the hot wire, and septal spurs can be sawed off easily. The tissues do not retract, as with cocaine, so that guaiacol can never be as serviceable as the latter where we wish to carefully inspect the nose, or in a case of supposed reflex neurosis, to determine the existence of sensitive areas.

In the pharynx, the application of the guaiacol solution may cause severe reflex movements, but sufficient anesthesia is induced to permit of cauterizing voluminous granulations and enlarged tonsils. In the larynx the incomplete absorption of the remedy proves an obstacle to satisfactory anesthesia.

These experiments of Laurens have been repeated by Geronzi, who dissolved the guaiacol in alcohol. This makes a solution a little more agreeable to handle, without apparently modifying in any way its anesthetizing power. Geronzi's results closely correspond to those of Laurens. In aural practice, he was able, under guaiacol anesthesia, to perform four myringotomies, remove granulations from the drum twice, polypi five times, and the malleus three times. In attacks of middle ear trouble, a certain disadvantage arose from the fact that the field of operation becomes obscured when the guaiacol comes in contact with the blood, probably owing to an oxidation. Geronzi suggests that guaiacol prepared by synthetic crystallization would be more constant in action and less irritating.

Dr. Newcomb had used guaiacol as a local anesthetic thirty-six times on twenty-eight different patients, sixteen men and twelve women, aged from sixteen to fifty-five years. It was used in spray, by application on tampons and hypodermically. In no instance had he noticed the formation of any emulsion or magma from admixture with the mucus. The operations included removals of polypi with the cold snare, curetting diseased ethmoid cells, the nasopharyngeal vault, and the pharyngeal wall, sawing off spurs of the nasal septum, cauterizing inferior turbinates and tonsils, and one application to the larynx preliminary to rubbing in a strong solution of lactic acid.

Anesthesia was perfect in fourteen, partial in sixteen, slight in two and entirely wanting in four cases.

DR. S. W. LANGMAID of Boston then read a paper on

##### SUB-MUCOUS HEMORRHAGE OF THE VOCAL CORDS.

Five cases were reported, in all of which the hemorrhage occurred at the junction of the anterior with the middle third of the cord. Four were on the right cord and one on the left. Three of the patients were men, one a woman. All were voice users, four being vocalists, the fifth an actor.

Four of the hemorrhagic patches were distinctly globu-

lar in shape and under the mucosa. The remaining one was diffuse. All came on suddenly and were the result of excessive vocal effort. A preexisting laryngeal catarrh occurred in each instance. The symptoms in all were sudden hoarseness, vocal impairment and limitation of range in the higher voice register.

The condition is, in reality, a vocal apoplexy. The preexisting catarrh lowers the laryngeal phonatory muscles; greater power than usual is, therefore, necessary to bring them into proper position. Hence, congestion, followed by vascular rupture. This accident may occur in first-class artists with irreproachable vocal technic as well as in those who are victims of faulty vocal methods.

**Treatment.**—Absolute rest, followed by strychnin and intralaryngeal galvanization. In none of Dr. Langmaid's cases had there been any hemoptysis. Dr. Dundas Grant had reported one case due to sneezing in which a fluid tumor (hematoma) had been the sequel of the blood extravasation.

#### DISCUSSION.

DR. J. W. GLEITSMANN of New York had seen one case result from a severe blow on the larynx. The late Dr. Morgan, of the Association, had reported one case of extravasation into the ventricular band.

DR. C. E. BEAN of St. Paul had seen one case in which the hemorrhage had recurred two or three times, and it was a long time before the blood was entirely absorbed.

The next paper was by DR. A. COOLIDGE, JR., of Boston on

#### HYSTERICAL DYSPHAGIA.

He said that this condition was frequently confounded with esophagismus or esophageal spasm, but is in reality quite distinct from it. The spasmodic condition may result from affections of the brain or tenth pair of nerves, from various reflexes from other organs, from drugs, sea-sickness, and hydrophobia.

Hysterical dysphagia is more common in women, but occasionally seen in children. Emotional causes may bring it on, and it may occur in pregnancy without assignable cause.

Symptoms are pain, sense of constriction, and feeling as of a foreign body. Onset generally sudden. A temporary lodgment of a foreign body may provoke it, the condition persisting after removal of the cause, and occasionally it is caused by affections of the pharynx and tonsils. Regurgitation is not, as a rule, observed. The sound may or may not pass readily. The trouble is observed in the first part of the act of swallowing.

Treatment should include removal of neighboring lesions and frequent passage of the bougie, but a sedulous avoidance of the esophageal electrode, as serious results have been reported from the effect on the heart through the vagus.

Discussion was opened by DR. THOMAS HUBBARD of Toledo, who spoke of sacculated dilatation of the gullet as one cause of obstruction.

DR. JOHN H. LOURNAN of Cleveland had cured one case occurring in a child of four years, with gradual onset

of symptoms, by means of suggestion. Sounds should not be passed recklessly, as at least three deaths had resulted from the use of the ordinary stomach tube.

DR. GLEITSMANN had found the removal of an enlarged lingual tonsil to be efficacious in curing one case.

DR. A. L. SWAIN of New York had been led to attach much importance to enlarged lingual tonsil as a causative factor in such cases. In his own experience lingual varix had not so acted, but the fact had been insisted upon by others that it frequently did.

DR. SAMUEL JOHNSTON of Baltimore had cured one case by removal of wax from the external ear.

DR. EMIL MAYER of New York had seen one case of dysphagia in a child referable to congenital stenosis. He attached much importance to auscultation as a means of diagnosis.

DR. D. BRYSON DELAVAN of New York would always refer the etiology in the so-called hysterical cases to some definite local or neighboring lesion.

DR. JOHN A. FARLOW had seen one case in a man who, while swallowing, or in reading aloud, would have a sudden spasmodic seizure of the neck muscles. In this case the removal of impacted wax relieved all the difficulty.

DR. LANGMAID referred to the condition as observed in anemic servant girls without apparent nervousness or observable structural lesions.

DR. COOLIDGE, in closing the discussion, declared his belief that in the anemic cases the anemia was the result rather than the cause of the difficulty in swallowing.

The next paper was a joint contribution by DRs. W. H. PARK of New York and JONATHAN WRIGHT of Brooklyn

#### ON BACTERIA OF THE NORMAL NOSE AND BACTERICIDAL PROPERTIES OF NASAL MUCUS,

and was read by DR. WRIGHT.

The reader had, ten years ago, found pathogenic bacteria in normal noses, and his experiments had been confirmed by Von Besser. Wurts and Lermoyez had asserted that nasal mucus would destroy anthrax bacilli. Thompson and Hewlett had maintained that while bacteria were common enough in the nasal vestibule they were wanting in the deeper nasal areas.

Drs. Park and Wright examined the mucus from thirty-six normal noses. It was removed from the deeper regions on sterile cotton swabs, the vibrissæ having been cut off by sterilized blades and the vestibule washed with bichlorid. Inoculation from the swabs of culture media gave bacterial growth in all but six cases out of the entire series.

Bacteria were found on the mucosa from the noses of two healthy rabbits. In one instance the mucus withdrawn did not check the growth of diphtheria bacilli, staphylococci, or streptococci, but it did check the growth of anthrax germs. The same inhibitory result followed the employment of sterilized sheep's serum.

The comparative freedom of the interior of the nose from bacteria might be due to the washing down of the serous exudation from the higher regions which tidal air

did not penetrate, the action of the ciliæ, the fact that nasal mucus is a poor culture medium for most germs, the straining action of the vibrissæ, and the fact that the ordinary bulk of inspired air contains but few germs anyway.

In the case of two rabbits, in each of whose noses one drop of a virulent bacterial culture had been allowed to fall, both died of septic infection inside of three days.

The closing paper of the session was by DR. J. W. GLEITSMANN of New York on

**TREATMENT OF CHRONIC AFFECTIONS OF THE TONSILS, WITH DEMONSTRATION OF INSTRUMENTS.**

Next to hypertrophy of the organ, as a whole, its most frequent chronic affection is probably the chronic inflammation of its follicles. The surface of the tonsil becomes roughened and irregular, while there is a destruction of its follicles and a plugging up of the lacunæ with white masses, which are products of inflammation. The retention of these is often the source of many ailments, whose true cause is often overlooked, as the masses are not always visible. For the proper treatment, preference is given to a small palate-hook (exhibited), by which the upper part of the tonsil where the masses most abound is easily exposed.

When the crypts contain lepto-thrix masses, the blunt hook of Moritz Schmidt is an excellent instrument. Dr. Gleitsmann has modified it, retaining the blunt tip, but sharpening the sides. This hook is also useful for separating adherent faucial pillars.

An inspection of the posterior surface of the tonsil is often prevented by the presence of a flap or fold of varying extent, which may seem on superficial inspection to be a part of the anterior pillar, but when the latter is drawn aside, a small deposit of lymphoid tissue is seen between the two. The greater part of the tonsil will be found behind this fold. This condition is probably the result of a previous attack of acute inflammation combined with chronic follicular disease. Harrison Allen has fully described this condition.

The proper method of removing this fold depends somewhat on its size and density. The Ruault punch-forceps are often of service. The forceps are, however, unduly large and have a vertical action, so that it is difficult to grasp the fold between the cutting-blades.

The reader of the paper then exhibited a modification of the Ruault instrument which he had devised. Its cutting direction was horizontal instead of vertical, and it was much smaller. In this class of operations it is often advisable to use cocaine. If the fold is very large, several sittings may be necessary to effect complete removal. Bleeding is not severe and can be easily controlled by cracked ice, mild styptic or caustic solutions.

**SECOND DAY—MAY 5TH.**

*A Case of Intranasal Tumor.*—The patient was shown by DR. J. H. BRYAN, of Washington. He was a young man who had had nasal stenosis for about four years, due to a tumor first appearing in the left anterior and later in the right posterior naris. The septum was

intact posteriorly; consequently it was inferred that the new growth had pierced the middle of the septum. From a bit removed for microscopic examination, it was found that the tumor was a fibrosarcoma, though mere inspection had suggested simple fibroma. Quite recently, diplopia and vertigo had been superadded. The growth bled freely when manipulated but there was no spontaneous hemorrhage. The most important question was as to the advisable method of removal, and the opinion of those present was solicited upon this point.

DR. M. R. WARD of Pittsburgh had operated upon a case of fibrosarcoma four years ago, and though rapid recurrence had been looked for, his patient was alive today with no reappearances. He was inclined to think that this fortunate issue threw some doubt on the correctness of the original diagnosis.

DR. W. E. CASSELBERRY of Chicago had reported, some eight years ago, a case of simple fibroma of the nose. It could not be removed in its entirety, so he had segmented it with the galvano-cautery knife, and then removed it in pieces with the snare.

DR. JONATHAN WRIGHT of Brooklyn would regard Dr. Bryan's case as one of fibrosarcoma from the fact that the nasopharynx was not involved. Pure fibroma of the nasopharynx is common enough, but as confined to the middle and anterior part of the nose it is practically unknown.

DR. J. SOLIS COHEN of Philadelphia would advise in the present case the performance of Rouge's operation.

DR. THOMAS HUBBARD of Toledo thought that the vertigo and the diplopia suggested brain involvement, and doubted whether the case should be operated upon at all.

DR. C. C. RICE of New York would strongly advise against trying to remove such growths with the snare. It was a futile method so far as thorough eradication was concerned.

DR. J. N. MACKENZIE of Baltimore observed that the Rouge operation frequently failed to afford a complete access to the site of attachment. He would, therefore, advocate the modified Langenbeck procedure, whereby the superior maxilla was rotated outward. By this measure total eradication could be done.

DR. BRYAN then read a paper on

**A CASE OF SUPPURATION OF THE FRONTAL AND MAXILLARY SINUSES.**

He began by saying that recent influenza epidemics had brought to light many cases of this nature. Some cases of frontal sinus disease are undoubtedly due to propagation of disease from the antrum of Highmore, owing to an abnormal communication between the two cavities. On the other hand, the converse is more often true. The infundibulum frequently projects beyond its usual point of termination as a half tube, ending in a valve-like fold of membrane which directed the drainage from the frontal sinus into the antrum.

He then described the anatomy of the frontal sinus, showing illustrative photographs of frozen skull sections.

(To be continued.)